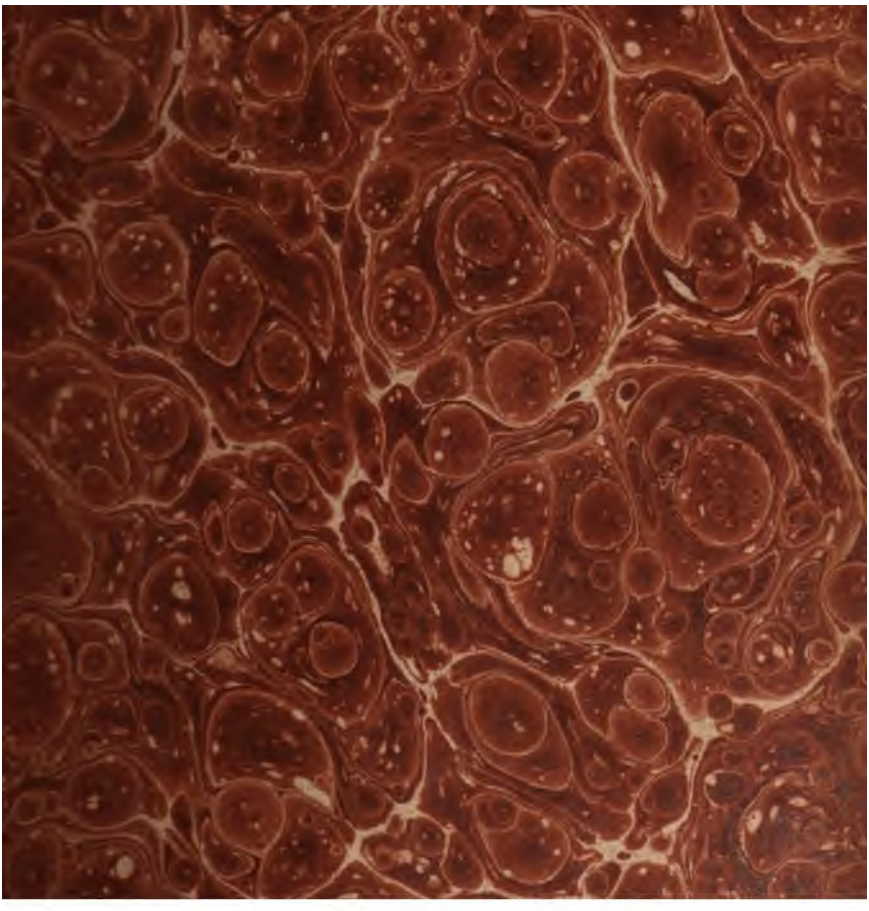

ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——" VIRESQUE ACQUIRIT EUNDO."—— *Virg.*

VOL. XX.

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MDCCCV.

LICHEN ſcrobiculatus.

Pitted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leafy, creeping, roundly lobed, crenate, pitted; glaucous above, with mealy warts; brown and downy beneath, with white bald ſpots. Shields ſmall, ſcattered, tawny.

SYN. Lichen ſcrobiculatus. *Scop. Carn. n.* 1391. *Lightf.* 850. *With. V.* 4. 59.

L. verrucoſus. *Hudſ.* 545. *Sibth.* 331. *Jacq. Coll. V.* 4. 278. *t.* 18. *f.* 2.

Lichenoides pulmoneum villoſum, ſuperficie ſcrobiculata et peltata. *Dill. Muſc.* 216. *t.* 29. *f.* 114.

L. arboreum folioſum cinereum et ſinuatum, inferne ſcabrum. *Raii Syn.* 75.

Pulmonaria verrucoſa. *Hoffm. Pl. Lich. t.* 1. *f.* 1.

FOUND on the trunks of trees, ſometimes on moſſy dry [illegible]

LICHEN pulmonarius.

Lungwort Lichen.

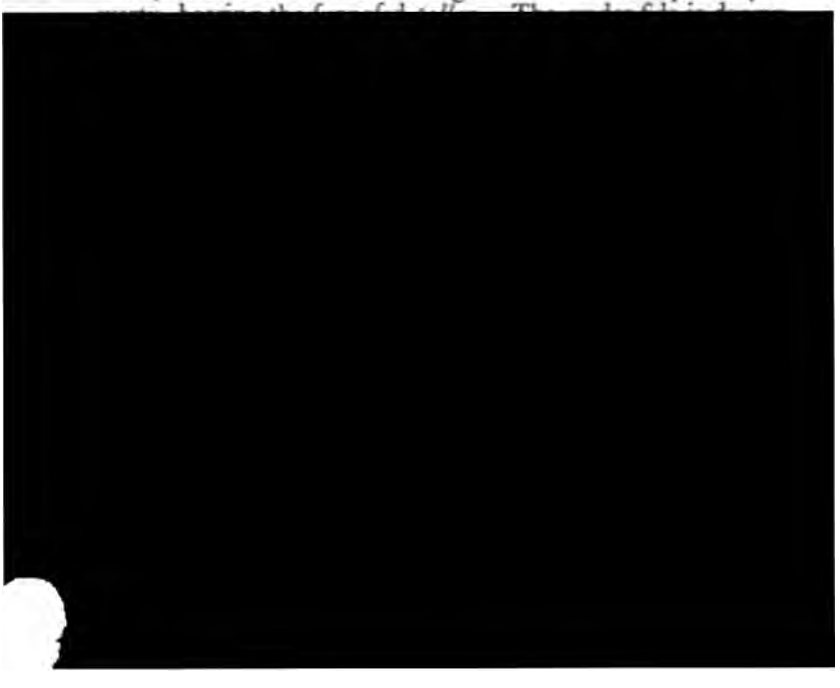
CRYPTOGAMIA Alga

Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Leafy, laciniated, obtuse, smooth; above green and pitted, somewhat reticulated; downy beneath. Shields mostly marginal.

Syn. Lichen pulmonarius. *Linn. Sp. Pl.* 1612. *Hudf.* 542. *With. v.* 4. 54. *Relb.* 432. *Sibth.* 331. *Abbot.* 267.
Lichenoides peltatum arboreum maximum. *Raii Syn.* 76.
L. pulmoneum reticulatum vulgare, marginibus peltiferis. *Dill. Musc.* 212. *t.* 29. *f.* 113.
Pulmonaria reticulata. *Hoffm. Pl. Lich. t.* 1. *f.* 2.

MOST plentiful in the northern or mountainous countries, where it clothes the trunks of large trees with a rich leafy garment. The fronds grow a little imbricated, but considerably raised from the bark into which their roots are inserted. They are leathery, green, deeply divided, irregularly and bluntly lobed, strongly pitted, the interstices forming a kind of network, which towards the margin of the frond is powdery or



3.

LICHEN perlatus.

Pearly Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

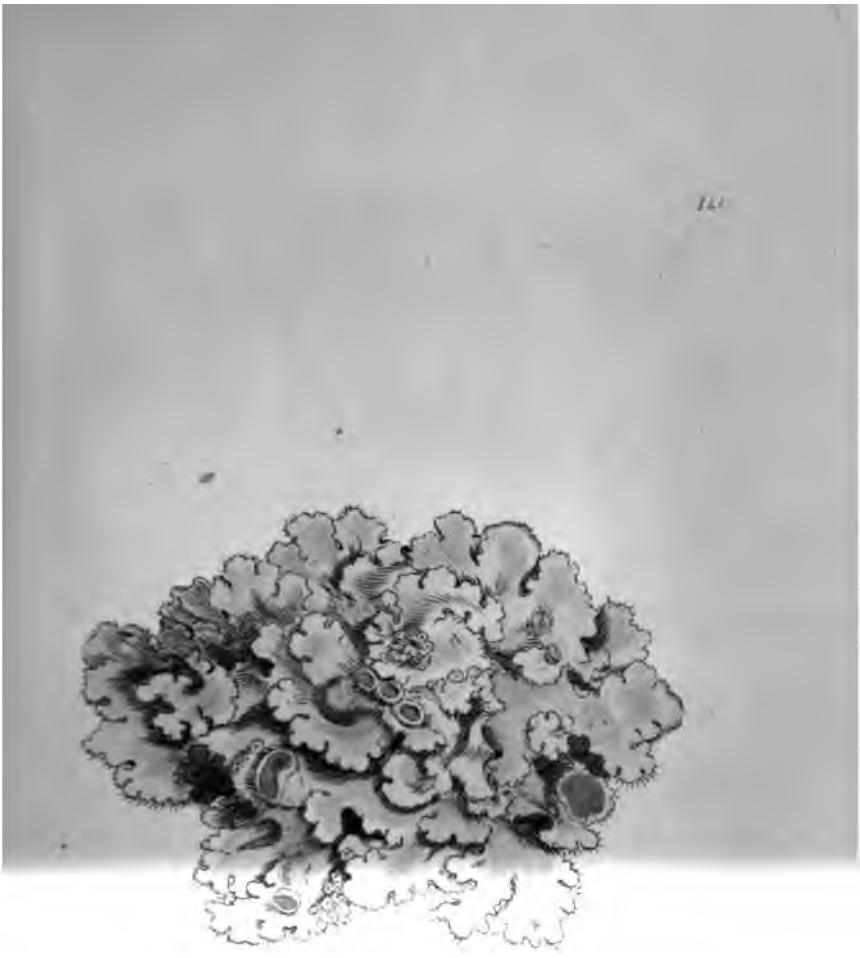
SPEC. CHAR. Leafy, creeping, lobed; grey and smooth above; black and hairy below; bordered with powdery tubercles. Shields on short footstalks, olive-coloured, concave, with a crenate powdery inflexed margin.

SYN. Lichen perlatus. *Linn. Syst. Nat. ed.* 12. *v.* 2. 712. *Huds. Fl. An.* 543. *With. Bot. Arr. v.* 3. 205. *Reth. Cant.* 434. *Sibth. Ox.* 330. *Smith's Tour, v.* 1. 225. 260.

Lichenoides glaucum perlatum, subtus nigrum et cirrosum. *Dill. Musc.* 147. *t.* 20. *f.* 39.

FOUND on the trunks of trees, old park pales, &c. very frequently, but it is one of the most rare of all Lichens in fructification. Our specimen in that state was gathered in Cardiganshire last summer, and is the only British one we ever saw.

The fronds spread into patches about as broad as the hand, not very firmly attached in any part, and the margin is quite loose



LICHEN perforatus.

Perforate-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, somewhat membranous, creeping, veinless, lobed; glaucous above; black and rough beneath; crenate and fringed with black hairs. Shields red-brown, at length perforated, with an entire, smooth, narrow margin.

SYN. Lichen perforatus. *Ach. Prodr.* 155. *Wulf. in Jacq. Coll. v.* 1. 116. *t.* 3.
Lichenoides glaucum, foliorum laciniis crinitis. *Dill. Musc.* 149. *t.* 20. *f.* 42. also *f.* 43 and 44, and *t.* 82. *f.* 3.
Platisma perforatum. *Hoffm. Pl. Lich. v.* 1. 65. *t.* 13. *f.* 1. and *t.* 13 *B*; figures all copied from the above.
Parmelia perforata. *Ach. Meth.* 217.

WE have many times gathered this Lichen in Wales, on the trunks of old trees and on rocks, but could never find shields. We have it of a very large size, like *Dill. f.* 43, but still barren, from South America. Mr. W. Borrer sent the annexed specimen from Sussex, where the plant is not uncommon on trees and sand-rocks, but no fructification has been discovered. The shields in our plate are from America.

Although nearly related to *L. perlatus*, *t.* 341, there is an evident difference in the aspect of the present species, whose edges are much more finely crenate or cut. The large pearly marginal warts also are wanting, though the surface is here and there granulated. The shields have a very thin smooth and entire border, not an inflexed powdery or crenate one, and they are very remarkable for acquiring a large irregular hole in the centre, as soon as they advance towards maturity.

Jones sc. & published by J. & C. Cundy, London

5.

LICHEN glomuliferus.

Ball-bearing Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Foliaceous, creeping, even and glaucous above, bearing dark-green, branched, tufted excrescences. Shields tawny.

SYN. Lichen glomuliferus. *Lightf. Scot.* 853.
L. laciniatus. *Huds. Fl. An.* 544. *With. Bot. Arr. v.* 3. 198.
Lichenoides subglaucum cumatile, foliis tenacibus, eleganter laciniatis. *Dill. Musc.* 197. *t.* 26. *f.* 99.

THIS is by far the largest and broadest *Lichen* known, often measuring two or three feet in diameter, and therefore Scopoli's original name *amplissimus* ought not to have been changed; but Mr. Lightfoot's is so apt, and has been so generally adopted by practical botanists, we retain it in preference to that given by Mr. Hudson, *laciniatus*, which is not expressive nor discriminative at all.

Lichen glomuliferus is found on the trunks of trees in old mountainous woods in England, Scotland, and Wales, very abundantly in Colonel Johnes's woods at Hafod, where ours was gathered. Its fronds spread loosely over the bark, a little imbricated, of a pale glaucous green above when moist, whitish grey when dry, very smooth, scarcely ever rugged; beneath downy, light reddish brown, the margin white. They are elegantly lobed and scalloped, the lobes being all round, and the little sinuses between them often quite circular. The shields are numerous, and by no means very rarely produced, not large, a little elevated, their margin smooth, of the colour and substance of the frond, out of which indeed it is formed by the gradual elevation and increase of the shield from a small immersed point; the disk is concave, of a brownish orange-colour, darker when dry. Besides these shields remarkable tufts or balls, of a dark-green soft branchy substance, with a solid white stem, arise out of the frond. These are more frequent than the shields, found on the same individual plants, and distinguish the species, being supposed to have a share in the fructification. We will not add any new conjectures to those to be found in Withering and Lightfoot, in both which authors this curious plant is well described.

Dr. Lyon Playfair del. Sowerby Sculp.

LICHEN læte-virens.

Bright-green Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Foliaceous, creeping, obtusely lobed and crenated; bright green above; whitish, downy and without veins beneath. Shields tawny.

SYN. Lichen læte-virens. *Lightf. Scot.* 852. *Dicks. Dr. Pl.* 23.

L. herbaceus. *Huds. Fl. An.* 544. *With. Bot. Arr. v.* 3. 195.

Lichenoides arboreum cinereo virens, tenue et læve ubique, scutellis minoribus. *Raii Syn.* 73.

L. læte virens, scutellis fulvis. *Dill. Musc.* 195. *t.* 25. *f.* 98.

THIS *Lichen* is next akin to that in our last plate, but a perfectly distinct species. We prefer Mr. Lightfoot's name also in this instance, because it has been most generally received, and is expressive of the peculiarly beautiful green which this plant assumes when moistened. Besides, *herbaceus* in botanical language is too generally used to express duration, to be intelligible when applied to colour.

The species before us is found in similar places with the preceding, but more frequently, especially in Derbyshire and Westmoreland. It differs from that in being thinner, less extensive, without the tufted excrescences, and of a very different colour. When dry it becomes brown. The shields are copiously produced, a little elevated, their margin smooth, turned in, their disk deep orange, turning brown in drying.

Sept. 1793 Published by J. Sowerby Lambeth

7.

LICHEN sylvaticus.

Wood Pitted Lichen.

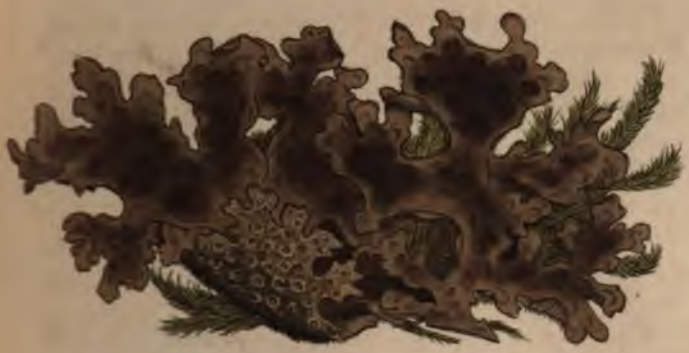
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranous, ascending, deeply lobed, bluntly cut, divaricated, of a greenish rusty hue, and somewhat pitted, above; beneath downy, tawny, blackish, with white pits. Shields marginal, vertical, convex, dark brown.

SYN. Lichen sylvaticus. *Huds.* 547. *Linn. Syst. Veg. ed.* 14. 961. *Achar. Prod.* 156. *With. v.* 4. 71. *Hull.* 300. *Lightf.* 848. *Sm. Tour to Hafod,* 12.
Lichenoides polyschides, villosum et scabrum, peltis parvis. *Dill. Musc.* 199. *t.* 27. *f.* 101.
Sticta sylvatica. *Achar. Meth.* 281. *Winch. v.* 2. 61.
Peltigera sylvatica. *Hoffm. Pl. Lich. v.* 1. 21. *t.* 4. *f.* 2.

WE have long waited, and have hunted for many an hour in vain, for British specimens of the shields of this Lichen, of which we once saw a fine specimen, sent by Dr. Burgess to Dr. Hope; so that we can vouch for the accuracy of what we are at length obliged to borrow from Hoffmann's beautiful work, at *fig.* 1. The plant itself, brought by Lady Wilson from the falls of Moness, is plentiful enough under trees in recluse mountainous woods of Oak, Birch, &c. The fronds compose light elastic tufts, as they spread nearly horizontally, slightly touching the ground or each other with their divaricated narrow lobes. Their upper surface is of a rich, often greenish, brown, full of little hollows; the under besprinkled with whitish pits, among short soft down; for this species belongs to the family of *Sticta*, see *t.* 1103, 1104. When moist, the whole has a fœtid alkaline scent. The shields stand pressed vertically to marginal segments, and are small, convex, brown, without borders.



Pl. 10 published by J. Sowerby

8.

LICHEN fuliginosus.

Sooty leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranous, spreading, roundly lobed, dark greenish grey, rough with blackish granulations: beneath downy, with white pits. Shields red brown, with a pale border.

SYN. Lichen fuliginosus. *Dicks. Crypt. fasc.* 1. 13. *With. v.* 4. 70. *Hull.* 299. *Achar. Prod.* 158.
Lichenoides fuliginosum et pulverulentum, scutellis rubiginosis. *Dill. Musc.* 198. *t.* 26. *f.* 100. A.

FOUND on rocks, as well as on trees in old dark woods, but only in the alpine counties. We have gathered it about Ambleside, Westmoreland, and at Hafod, Cardiganshire. Mr. E. Forster found it in Rookwood grove, at Boconnoc, Cornwall, and Dillenius, Mr. Griffith and Mr. D. Turner in North Wales.

The fronds spread from a centre in a loosely imbricated manner among moss, generally on the trunks of trees, especially hazels and thorns. Their texture is membranous and

Dec.r 1. 1802 Published by Ja.s Sowerby London

9.

LICHEN limbatus.

Mealy-bordered leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Membranous, ſpreading, roundly lobed, glaucous brown, ſmooth; grey and powdery towards the margin: beneath downy, with white pits. Shields brown.

SYN. Lichenoidis, *Dill. Muſc.* 198. *t.* 26. *f.* 100, varietas farinoſa, B, C.

WE have long ago obſerved this Lichen, at the roots of trees, and on ſhady moſſy rocks at the Hermitage near Edinburgh, as well as growing with *L. fuliginoſus* at Hafod, and are convinced of its being diſtinct from that ſpecies, which Dillenius (who gathered the ſame in Bagley wood, Oxfordſhire) ſeems alſo inclined to ſuſpect. The fructification was found by Mr. Menzies in Scotland, and by Mr. D. Turner upon Snowdon. Neither we nor Dillenius could ever diſcover it.

In form this reſembles the preceding, but differs a little in

Dec.1 1801 Published by J.s Sowerby London

LICHEN crocatus.

Yellow-veined Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Somewhat coriaceous and depressed, sinuated, roundly lobed, cellular, glaucous brown; the margin and veins bearing lemon-coloured powder; the dorsal pits lemon-coloured. Shields brownish-black, with a border like the leaf.

SYN. Lichen crocatus. *Linn. Mant.* 310. *Ach. Prod.* 158. *Dicks. Crypt. fasc.* 2. 22. *H. Sicc. fasc.* 4. 24. *With. v.* 4. 52. *Hull.* 296.
Sticta crocata. *Ach. Meth.* 277.

FOUND first by Mr. Dickson on the Highland rocks of Scotland. Mr. Borrer and Mr. Hooker gathered the specimen in our plate on trees at Inverary.

The fronds spread in a loosely imbricated manner, forming roundish patches, and are rather leathery, sinuated, with rounded notched lobes. The upper surface is of a dull glaucous or greenish brown, full of numerous little smooth hollows, separated from each other by a rude network of elevated veins, which are rough and scurfy, producing a fine lemon-coloured powder. The under side is of a reddish brown, downy, with little smooth lemon-coloured pits interspersed. We have never been so fortunate as to see shields, either in the Linnæan or any other specimens; but they are described as of a brownish black, with a margin like the substance of the frond. No doubt, they are much like those of *L. fuliginosus*, *t.* 1103.——With this was originally confounded the *Sticta aurata*, *Ach. Meth.* 277, which, on our representation, the learned author has distinguished from it, and which is figured by Dillenius and Hoffman. Finding this last in Mr. Hudson's British herbarium, we have suspected he might have gathered it in Devonshire; which merits further inquiry.

Sowerby Sculpt.

LICHEN auratus.

Golden-edged Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Somewhat coriaceous, ascending, sinuated, roundly lobed, nearly even, of a shining reddish glaucous light brown; the margin wavy, bearing golden-coloured powder; the dorsal pits bright yellow. Shields ....

SYN. Sticta aurata. *Ach. Meth.* 277.
Platisma crocatum. *Hoffm. Pl. Lich. v.* 2. 52. *t.* 38. *f.* 1—3.
Lichenoides lacunosum rutilum, marginibus flavis. *Dill. Musc.* 549. *t.* 84. *f.* 12.

PART of a specimen communicated by Mr. Lambert from the remains of Mr. Hudson's herbarium, to which we have alluded in *v.* 30. *p.* 2110. If British, of which we have no positive evidence, it was probably gathered in the woody part of Devonshire, which its collector often visited; and as Professor Acharius has mentioned this in his *Methodus*, where, on our authority, he first separated the present magnificent species from *crocatus*, *t.* 2110, we would not leave our work imperfect by omitting it. Some bits of *Neckera pumila*, *t.* 1443, attached to the specimen, indicate its growing on trees. The plant is known to be a native of St. Helena and the West Indies; nor dare we deny the possibility of Mr. Hudson's having put into his collection foreign specimens, as an exhibition of *crocatus*, known in his time to have been found in Scotland. Some Devonshire botanist must clear up these uncertainties.

The fronds are larger than in *crocatus*, and less pitted, smooth, destitute of powdery veins, of a bright glaucous reddish brown; the under side downy, blackish towards the middle, with small golden pits. The lobes are sinuated, rounded, crenate and wavy, with tumid, powdery, bright yellow or golden edges. No shields have been observed.

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12.

LICHEN venosus.

Green Veiny Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leathery, roundish; green and even above; marked beneath with longitudinal branching brown prominent veins. Shields anterior, marginal, horizontal, round, dark-brown, with an entire brown margin.

SYN. Lichen venosus. *Linn. Sp. Pl.* 1615. *Achar. Prod.* 159. *Hudf.* 546. *With. v.* 4. 69. *Hull.* 299. *Lightf.* 844. *Dickf. H. Sicc. fasc.* 10. 25.

Lichenoides parvum virescens, peltis nigricantibus planis. *Dill. Musc.* 208. *t.* 28. *f.* 109.

Peltigera venosa. *Hoffm. Pl. Lich. t.* 6. *f.* 2.

THIS curious little *Lichen* has been found, though rarely, in some parts of Scotland, from whence Mr. Mackay favoured us with specimens; but those in the annexed plate are the first known to be of English growth, having been gathered by Dr. J. Babington close to the town of Ludlow, and they are

Jan. 1 1810 Published by Jas Sowerby London

LICHEN spurius.

Imperfectly-veined Lichen.

CRYPTOGAMIA Lign.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leathery; ash-coloured and even above; whitish, smooth, with indistinct pale veins beneath. Shields anterior, ascending, roundish, dark reddish brown.

SYN. Lichen spurius. *Ach. Prod.* 159.
Peltidea spuria. *Ach. Meth.* 283. *t.* 5. *f.* 2.

MR. BORRER found this Lichen on thatch at Hurst-pierre-point, Sussex, in July last, and communicated specimens to us, which agree with those of Dr. Acharius. Mr. Turner

Duc.ss Glos. Published by Jas Sowerby, London

14.

LICHEN horizontalis.

Brown Horizontal Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leathery, ſpreading, lobed, poliſhed, glaucous greenith brown; beneath covered with a network of brown veins. Shields ſtanding on ſmall lobes, ſeſſile, anterior, horizontal, round, reddiſh, with a pale notched border.

SYN. Lichen horizontalis. *Linn. Mant.* 132. *Achar. Prod.* 160. *Huiſ.* 548. *With. v.* 4. 72. *Hull.* 300. *Lightf.* 849. *Abbot.* 267. *Dickſ. H. Sicc. faſc.* 16. 24.

Lichenoides ſubfuſcum, peltis horizontalibus planis. *Dill. Muſc.* 205. *t.* 28. *f.* 104.

FOUND on moiſt moſſy rocks in woods in the mountainous parts of Great Britain not unfrequently. We received it from the Rev. H. Davies of Aber, North Wales.

It may ſeem wonderful that Linnæus ſhould ever have confounded this with *L. venoſus*, which nevertheleſs appears by his herbarium, to have been the caſe, nor did he deſcribe the

June 1 1821 Published by Jos Sowerby, London.

LICHEN caninus.

Ash-coloured Ground Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond coriaceous, dilated, ascending, furrowed, grey; white, with brown veins and fibres, beneath; lobes very broad, with marginal, fruit-bearing processes. Shields in front, vertical, revolute, roundish, red-brown, with a pale border.

SYN. Lichen caninus. *Linn. Sp. Pl.* 1616. *Achar. Prod.* 160. *Huds.* 546. *With. v.* 4. 69. *Hull.* 299. *Relh.* 465. *Sibth.* 331. *Abbot.* 267. *Woodv. Med. Bot. Suppl. t.* 273.

Lichenoides digitatum cinereum, lactucæ foliis sinuosis. *Dill. Musc.* 200. *t.* 27. *f.* 102.

L. peltatum terrestre cinereum majus, foliis divisis. *Raii Syn.* 76.

Peltidea canina. *Achar. Meth.* 283. *Winch. v.* 2. 61.

EVERY where abundant on heaths, banks, and about the roots of trees in shady woods. It is known by its larger size, more ash-coloured, and furrowed as if veiny, upper surface, and copious, distant, large, bright bay shields, from all of the same tribe; several of which are nearly related to, and have been considered as varieties of, the present plant. The leathery fronds form great patches, and when young especially are of a fine light grey, without polish, above; by age and repeated wet they grow darker. Warts are often found about the edges. The whitish under side has copious brown elevated veins, and often blackish, evenly scattered, radicles. At the margin are solitary, simple, broadish, convex lobes, each bearing only one large, perpendicular, orbicular, at length recurved, shield. This is the "Ash-coloured Ground Liverwort," once celebrated as a cure for the bite of a mad dog; but we believe it never acted, even on the *imagination* of the patient, though it might on that of the learned Dr. Mead. See Dill. Musc. 202.

16.

LICHEN rufescens.

Dark-coloured Ground Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond coriaceous, rigid, concave, even, dark reddish-brown; pale, downy, with obsolete veins, beneath; lobes rounded, with numerous fruit-bearing processes. Shields in front, vertical, roundish, dark brown, with a pale border.

SYN. Lichen rufescens. *Necker Musc.* 79. *Achar. Prod.* 166. *With. v.* 4. 70. *Hull.* 299.
L. caninus β. *Huds.* 546. *Sibth.* 331. *Lightf.* 846.
Lichenoides digitatum rufescens, foliis lactucæ crispis. *Dill. Musc.* 203. *t.* 27. *f.* 103.
L. peltatum terrestre rufescens. *Raii Syn.* 77.
Peltidea rufescens. *Ach. Meth.* 285; excluding the variety β. *Winch. v.* 2. 61.

EVEN more common than *L. caninus, t.* 2299, with which it is frequently confounded, but from which it differs sufficiently, as Dillenius well remarks, in the fronds being smaller, thicker and more rigid; their upper side concave in consequence of the inflexed margins, very smooth and even, except when cracked so as to look as if veined, of a darker sooty hue; turning reddish, or deep chesnut, in drying. The under side is more downy, with broader, more obsolete or superficial, veins. Shields numerous, smaller, and of a much darker brown.

Our learned friend Acharius, in his *Methodus,* makes *L. scutatus, t.* 1834, a variety of this; but in a letter dated Nov. 12, 1803, he, with his accustomed candour, acknowledges that he may be mistaken, and confesses himself not well acquainted with our true *rufescens.* Wulfen's figure, in Jacq. Coll. v. 4. t. 15, which seems to us *horizontalis,* may have misled Acharius respecting the *rufescens.*

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LICHEN scutatus.

Target-fruited Leathery Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond coriaceous, spreading, brownish grey; pale, reddish, and veiny beneath; lobes oblong, their margin crisped and powdery. Shields in front, somewhat stalked, round, dark brown, with an inflexed, pale, crenate border.

SYN. Lichen scutatus. *Dichs. Crypt. fasc.* 3. 18, *without the synonym.* *With. v.* 4. 71. *Hull.* 300. *Ach. Prod.* 166.
L. collinus. *Ach. Prod.* 162.
Peltidea scutata. *Ach. Meth.* 285.
P. rufescens β. *Ach. Meth.* 285.

I FOUND this on trees in Westmoreland in 1782, (when, for want of fruit, no one would dare to determine it,) and in fine perfection at Hafod many years after. It proves to be Mr. Dickson's *L. scutatus*, as he himself informs me; consequently what Professor Acharius has adopted from him under that name. That it is the *collinus* also of the last author, is determined by his own examination of my specimens. How far he is now right in making it a variety of *rufescens*, must be left for future consideration. As to the *scutatus* of Wulfen, it is most evidently the *sepincola*, and surely not even a variety.

Our present specimen was gathered on trees at Inverary by Mr. Turner and Mr. W. J. Hooker. The fronds spread in broad loose patches, like the imbricated Lichens, over the trunks of old trees, among *L. pulmonarius*, &c. They are leathery, smooth and of a brownish or greenish grey above; pale with reddish as well as black veins beneath, though naked of fibres except the actual roots. The lobes are singularly elongated, and as remarkably crisped and powdery at their edges. Their extremities form a kind of stalk to the flat, round, dark-brown shields, each of which has a narrow, inflexed, crenate, pale border.——Our English translators make Mr. Dickson describe this as "veinless" beneath, though he only says *nudus*.

1834

Sowerbi. Published by Jas. Sowerby London.

18.

LICHEN aphthosus,
Thrush Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Leathery, spreading, roundly lobed, smooth, green, sprinkled with brown warts; beneath fibrous, slightly veined. Shields on narrow ascending lobes, anterior, roundish, reddish.

Syn. Lichen aphthosus. *Linn. Sp. Pl.* 1616. *Hudf.* 547. *With. v.* 4. 70. *Hull.* 299. *Lightf.* 847.

Lichenoides digitatum lætè virens, verrucis nigris notatum. *Dill. Musc.* 207. *t.* 28. *f.* 106.

Peltigera aphtosa. *Hoffm. Pl. Lich. t.* 6. *f.* 1.

We have received this from our often-mentioned friends Mr. Relhan, Mr. Harriman, and Mr. D. Turner. It is found only in alpine rocky shady places, growing on the ground under firs or juniper bushes. Having never seen a British specimen in fruit, we have been obliged to delineate a shield gathered in Savoy, where the plant is more luxuriant than in this country.

[redacted]

Sowerby del. 1807 & 1815 Published by Dr Sowerby London

LICHEN resupinatus.

Reversed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Coriaceous, creeping, lobed, brown. Shields marginal, on the under side of the frond.

SYN. Lichen resupinatus. *Linn. Sp. Pl.* 1615. *Huds. F. An.* 545. *Ligtf. Scot.* 848. *With. Bot. Arr.* v. 3. 205.

Lichenoides saxatile fuscum, peltis in aversa foliorum superficie locatis. *Raii Syn.* 77.

L. fuscum, peltis posticis ferrugineis. *Dill. Musc.* 206. *t.* 28. *f.* 105.

IN woods, clinging close to the mossy stems and roots of trees, and also on rocks, in the mountainous parts of Great

LICHEN parilis.

Chocolate Reversed Lichen.

CRYPTOGAMIA Alpe.

Gen. Char. Male. scattered warts.
Female. smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Somewhat coriaceous, creeping, lobed, jagged, crenate and wavy, greenish or purplish brown, bearded with superficial or marginal, dark, powdery warts. Shields red brown, broader than long, on the under side of the shorter lobes at their ends.

Syn. Lichen parilis. *Ach. Prodr.* 164.
Peltidea parilis. *Ach. Meth.* 259.

SENT by the Rev. E. Williams from an old stone-quarry in Shropshire in 1800. We discovered the same on the alps of Switzerland in 1787, but have never seen the shields. Having transmitted a specimen to Professor Acharius, to inquire whether it were his *L. parilis*, he answers, "it is undoubtedly so, and certainly a totally distinct species," though mentioned as doubtful in his works. "It dies wool blue, which is not the case with *resupinatus*, nor do their modes of growth, nor habits, agree."

2360

LICHEN croceus.

Saffron-coloured Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Coriaceous, creeping, roundiſh, flat; beneath veiny, downy and ſaffron-coloured. Shields ſcattered, flat, cloſely attached to the frond.

SYN. Lichen croceus. *Linn. Sp. Pl.* 1616. *Hudſ.* 548. *With. V.* 4. 68. *Jacq. Coll. V.* 4. 255. *t.* 11. *f.* 2, 3.

Lichenoides ſubtus croceum, peltis appreſſis. *Dill. Muſc.* 221. *t.* 30. *f.* 120.

Peltigera crocea. *Hoffm. Pl. Lich. t.* 41. *f.* 2-4. *t.* 42. *f.* 4, 5.

ONE of the moſt beautiful, as well as the moſt rare, of our alpine Lichens, for freſh ſpecimens of which we are indebted to Mr. Don of Forfar, and Mr. Mackay of Edinburgh; and theſe

22.

LICHEN saccatus.

Socket Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Coriaceous, creeping in a somewhat circular form. Shields sunk into deep pits in the leaf, projecting on the under side.

SYN. Lichen saccatus. *Linn. Sp. Pl.* 1616. *Huds. Fl. An.* 548. *With. Bot. Arr. v.* 3. 205. *Lightf. Scot.* 855.

Lichenoides Lichenis facie, peltis acetabulis immersis. *Dill. Musc.* 221. *t.* 30. *f.* 121.

THE native place of growth of this Lichen is (as Mr. Lightfoot well expresses it) " upon the earth in the chasms of rocks

[redacted]

LICHEN glaucus.

Glaucous Leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranaceous, smooth, polished on both sides, lobed, jagged and curled; glaucous above; black beneath. Shields marginal, slightly bordered, red brown; at length flat, smooth.

SYN. Lichen glaucus. *Linn. Sp. Pl.* 1615. *Achar. Prod.* 167. *Huds.* 548. *With. v.* 4. 53. *Hull.* 296. *Lightf.* 838. *Sm. Tour, v.* 1. 336.
Lichenoides endiviæ foliis crispis et splendentibus, subtùs nigricantibus. *Dill. Musc.* 192. *t.* 25. *f.* 96.
Cetraria glauca. *Ach. Meth.* 296.

THIS Lichen is found in mountainous countries on rocky moors or heaths, as well as on the trunks of old trees. The late Rev. H. Bryant first observed it in Norfolk on old pales at Sall. The Rev. G. R. Leathes sent us specimens from damp parts of the heath near the place of growth of *Buxbaumia aphylla, t.* 1596. We subjoin a figure of the only British specimen we have ever seen in fructification, communicated by Mr. Dickson from Scotland, which is the more valuable, as Acharius himself never saw the shields, and it is not clear that Dillenius really knew them.

The fronds form loose straggling tufts, and are thin and membranous, very pliable when wet, smooth and shining on both sides when dry, variously lobed, sinuated and curled; glaucous variegated with brown above; black, but pale at the edges, underneath. The shields grow on or near the margin, almost sessile; when young they are convex, with a jagged inflexed border of the substance of the frond; when old they are flat; at all times smooth, of a red brown, or bay colour.

When the frond is morbidly inflated it becomes the *L. ampullaceus* of Linnæus, as I have verified by specimens belonging to Mr. Menzies. See *Trans. of L. Soc. v.* 7. 112, and *Ach. Meth.* 297.

James Sowerby Published by Tho. Sowerby London

LICHEN pinastri.

Golden Pine Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranous, depressed, smooth, and of a pale glaucous brown, on both sides; the margin elevated, curled, roundly lobed, bearing copious bright-yellow powder. Shields bright bay, with a yellow crenate border.

SYN. Lichen pinastri. *Scop. Carn.* v. 2. 382. *Ach. Prod.* 168. *Dicks. Crypt. fasc.* 3. 18. *With.* v. 4. 51. *Hull.* 296.
Squamaria pinastri. *Hoffm. Pl. Lich. t.* 7. *f.* 1.
Cetraria juniperina β. *Ach. Meth.* 298.

MR. DICKSON first noticed this species on the trunks of Scotch firs in the Highlands. Mr. Turner very unexpectedly detected a few small plants of the same on Mr. Rigby's pales at Framingham near Norwich, the most elevated spot in Norfolk, one of which is drawn at *fig.* 1.

This is truly a beautiful as well as very rare Lichen. The

Published by J. Sowerby London.

LICHEN Sepincola.

Fence Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranaceous, smooth, glaucous-brown; paler and somewhat pitted beneath; segments flattish, ascending, sinuated, crenate, powdery at the edge. Shields nearly marginal, elevated, flattish, chesnut-coloured, with a thin notched border.

SYN. Lichen Sepincola. *Ehrh. Phytoph.* 90. *Ach. Prodr.* 169. *Hedw. Crypt. v.* 2. 8. *t.* 2. *Dicks. Crypt. fasc.* 3. 18. *With. v.* 4. 73. *Hull.* 300.

Platisma Sepincola. *Hoffm. Pl. Lich. v.* 1. 71. *t.* 14. *f.* 1.

Cetraria Sepincola. *Ach. Meth.* 297.

MR. DICKSON mentions this as growing on stones upon the Scottish mountains. We have seen no authentic British specimens, except a few, without fructification, shown us by

[redacted]

2

3.

1.

Mac Donald del. et lith.

26.

LICHEN fallax.

Fallacious Leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranaceous, smooth, glaucous white on both sides, polished, lobed and finely jagged. Shields terminal, slightly bordered, brown; at length dilated and convex.

SYN. Lichen fallax. *Web. Goett.* 244. *Ach. Prodr.* 169. *Dicks. Crypt. fasc.* 1. 13. *With. v.* 4. 53. *Hull.* 296.

L. alpinus membranaceus elegans, &c. *Mich. Gen.* 75. *t.* 37.

Lichenoides membranaceum, tubæ fallopianæ æmulum. *Dill. Musc.* 165. *t.* 22. *f.* 58.

Platisma fallax. *Hoffm. Pl. Lich. v.* 2. 71. *t.* 46.

Cetraria fallax. *Ach. Meth.* 296.

Jan. 1812 Published by Jos. Sowerby London.

27.

LICHEN islandicus.

Iceland Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, laciniated, channelled and fringed, greenish chesnut-coloured. Shields sessile, flat, of the same colour.

SYN. Lichen islandicus. *Linn. Sp. Pl.* 1611. *Achar. Prod.* 170. *Huds.* 539. *With. v.* 4. 54. *Hull.* 296. *Lightf.* 829. *Woodv. Med. Bot. t.* 205. *Jacq. Coll. v.* 4. 253. *t.* 8. *f.* 1.

Lichenoides rigidum, eryngii folia referens. *Raii Syn.* 77. *Dill. Musc.* 209. *t.* 28. *f.* 111.

L. islandicum. *Hoffm. Pl. Lich. t.* 9. *f.* 1.

Cetraria islandica. *Achar. Meth.* 293.

A NATIVE of mountainous heaths and woods in the alpine parts of Britain. We have gathered it on the Pentland hills near Edinburgh, Ben Lomond, &c. and have received it from Durham, but have been obliged to draw the fructification from

Tab. I 2334 Published by Jas. Sowerby, London

LICHEN nivalis.

Snow Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, laciniated, pitted, of a sulphureous white, yellow at the base; its segments flattish, repeatedly divided, divaricated, notched, warty. Shields in front towards the margin, flesh-coloured, with a crenate border.

SYN. Lichen nivalis. *Linn. Sp. Pl.* 1612. *Fl. Lapp. ed.* 2. 355. *t.* 11. *f.* 1. *Ach. Prod.* 171. *Dicks. Crypt. fasc.* 3. 17. *With. v.* 4. 60. *Hull.* 298. *Villars Dauph. v.* 3. 955. *var.* 1. *t.* 55. *Fl. Dan. t.* 227.

Lichenoides lacunosum candidum glabrum, endiviæ crispæ facie. *Dill. Musc.* 162. *t.* 21. *f.* 56 A.

Cetraria nivalis. *Ach. Meth.* 294.

THE specimen in our plate was brought from the Highlands of Scotland by Mr. Turner and Mr. Hooker in 1807, but our first knowledge of this Lichen as a native of that country was derived from Dr. R. Townson in 1790, as mentioned in the

March 1, 1819. Published by the Linnean Society of London.

V

29.

LICHEN tenellus.

Little Ciliated Lichen.

CRYPTOGAMIA Algæ.

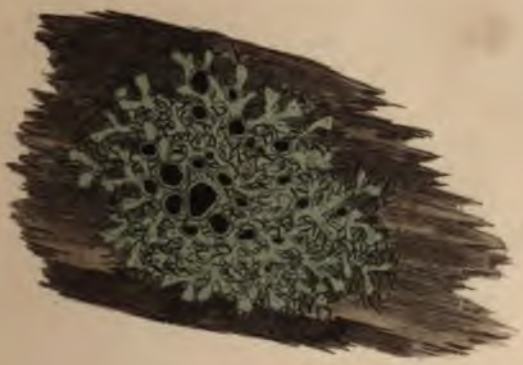
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, procumbent, smooth, greyish: segments linear; their extremities ascending, dilated, obtuse, vaulted, fringed. Shields sessile, blueish-black.

SYN. Lichen tenellus. *Weber.* 235. *Achar. Prod.* 172. *With. v.* 4. 56. *Hull.* 297. *Relh.* 466. *Sibth.* 329. *Abbot.* 266. *Ehrh. Crypt.* 217.
L. ciliaris β. *Huds.* 538.
Lichenoides hispidum minus et tenerius, scutellis nigris. *Dill. Musc.* 152. *t.* 20. *f.* 46.
L. saxatile et arboreum tenerius, foliis pilosis, scutellis in aversa foliorum superficie apparentibus. *Dill. in Raii Syn.* 74.
L. hispidum. *Hoffm. Pl. Lich. t.* 3. *f.* 2, 3.
Parmelia tenella. *Achar. Meth.* 250.

COMMON on the bark of trees, or rather on the branches of shrubs, as well as on pales and stones. The sloe and other bushes in our hedges generally abound with this species at all seasons of the year.

The fronds are depressed, much branched, and somewhat imbricated, of a brilliant greyish white, forming creeping patches scarcely an inch broad; their segments linear, zigzag, rather convex; dilated, obtuse, and vaulted, or somewhat inflated, at their extremities, often powdery, and fringed at that part with long, blackish or white, undulating bristles. The shields are sessile on the upper surface of the frond, of a blueish or greyish black, flat; their border of the substance and colour of the leaf, inflexed, externally very smooth, internally crenate.



Sept. 1. 1816. Published by Jos. Sowerby, London.

LICHEN ciliaris.

Great Ciliated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, minutely pulverulent, of a greenish glaucous grey: segments linear, laciniated, fringed. Shields elevated, brownish black.

SYN. Lichen ciliaris. *Linn. Sp. Pl.* 1611. *Achar. Prod.* 173. *Huds.* 538. *With.* v. 4. 55. *Hull.* 297. *Relh.* 466. *Stoch.* 326. *Abbot.* 265. *Dicks. H. Sicc. fasc.* 7. 24. *Ehrh. Crypt.* 227.
Lichenoides hispidum majus et rigidius, scutellis nigris. *Dill. Musc.* 150. *t.* 20. *f.* 45.
L. arboreum foliosum cinereum, scutellis nigris, foliorum extremitatibus hispidis et pilosis. *Raii Syn.* 73.
L. ciliare. *Hoffm. Pl. Lich. t.* 3. *f.* 4.
Parmelia ciliaris. *Achar. Meth.* 255.

NO less abundant than the last in its appropriate situations


2362

31.

LICHEN leucomelos.

Black-haired Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, spreading, smooth, white on both sides; channelled and powdery beneath: segments linear, fringed with long, black, very slender hairs. Shields stalked, blueish-black, with a white radiating border.

SYN. Lichen leucomelos. *Linn. Sp. Pl.* 1613. *Ach. Prodr.* 181. *Swartz. Obs.* 407. *t.* 11. *f.* 3.
Lichenoides angustifolium planum, crinibus nigris. *Dill. Musc.* 156. *t.* 21. *f.* 50.
Parmelia leucomela. *Ach. Meth.* 256.

DISCOVERED by Mr. W. J. Hooker at Babbicombe in Devonshire last February. This species had never before been met with in Britain, but is a native of the West Indies, and of St. Helena. The fronds grow in dense lax tufts, spreading amongst thyme, &c. in heathy places, and are known by their generally very pure white colour and great smoothness above, contrasted with their remarkably long, slender, coal-black, simple or branched, marginal hairs. Sometimes there is a grey or smoky tinge. The breadth of the segments varies much. The under side is channelled and mealy, always snow-white. The elegant shields were not found by Mr. Hooker. We have them on specimens gathered by Mr. Menzies in St. Helena. They are lateral, scattered, on short stalks; the disk flat, greyish, surrounded with a white, leafy, radiating margin, sometimes bearing black hairs like those of the frond.

Map was published by Jos. Lowndes, London.

LICHEN atlanticus.

Downy Shrubby Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, branched, tufted and entangled, grey, downy, linear, channelled underneath; branches rigid, divaricated. Shields lateral, flattish, black, with a smooth, entire, grey border.

SYN. Lichen intricatus. *Desfont. Atlant.* 420. *t.* 258. *f.* 3.
Lichenoides subhirsutum teres, scutellis parvis nigris. *Dill. Musc.* 157. *t.* 21. *f.* 51. *Herb. Dill.*
Parmelia atlantica. *Ach. Meth. Suppl.* 50.

FIRST found in Britain by Mr. W. Borrer, on elms at Bracklesham in Selsey island, in April 1804, and by the same gentleman on cliffs near Hastings, bearing shields in August 1805. We should gladly have called it *L. Borreri* after its discoverer, who is so peculiarly conversant with Lichens, the name *intricatus* being preoccupied, and that which alludes to its growing on mount Atlas being contrary to the soundest rules of nomenclature. The synonym of Dillenius, which no one has suspected, we have ascertained by a specimen compared at Oxford. Indeed his figure and description are instantly recognised.

The fronds form dense entangled tufts on the branches of trees or on rocks, and are of a grey or whitish colour, clothed with fine short down. Their subdivisions are numerous, divaricated, linear, channelled beneath. Shields lateral, sessile, small, round, with a black disk, at length becoming convex, and an entire downy border, of the colour and substance of the frond.

It belongs to the same natural tribe as *L. prunastri*, *farinaceus*, *fuciformis*, &c. Micheli is its original discoverer, who sent it to Sherard, and whose indifferent figure (*Gen. Pl. t.* 38. *f.* 3.) Dillenius, as usual, takes delight in criticizing.

1715

Mr. Lilley, Published by Jas. Sowerby London.

LICHEN fuciformis.

Flat-leaved Orchal.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, divided, pointed, flat, nearly upright, tapering at each end, greyish white, obscurely downy, set with white mealy warts. Shields convex, blackish.

SYN. Lichen fuciformis. *Linn. Sp. Pl.* 1614. *Dicks. Crypt. fasc.* 3. 17. *With.* v. 4. 51. *Hull.* 295.

Lichenoides fuciforme tinctorium, corniculis longioribus et acutioribus. *Dill. Musc.* 168. *t.* 22, 23. *f.* 61.

GATHERED on coarse granite rocks at Tintagel, near King Arthur's castle on the Cornish coast, by Mr. Sowerby and Mr. D. Turner, who were informed that this species is collected for the dyers' use indiscriminately with L. *Roccella*, *t.* 211, or rather that of the two the *fuciformis* is most used.

[redacted]

Engraved and Published by J. Sowerby London.

LICHEN furfuraceus.

Branny Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leafy, leathery, decumbent, laciniated and forked; convex, greeniſh-grey and powdery above; concave, rugged and black beneath. Shields ſcattered, inflated, reddiſh-brown, with a thin inflexed edge.

SYN. Lichen furfuraceus. *Linn. Sp. Pl.* 1612. *Hudſ.* 539. *With. v.* 4. 56. *Hull.* 297. *Lightf.* 832. *Achar. Prod.* 173.

Lichenoides cornutum amarum, supernè c inereum infernè nigrum. *Dill. Muſc.* 157. *t.* 21. *f.* 52.

LICHEN furfuraceus is to be found in the moſt mountainous counties only, and there not frequently. It grows on the trunks of trees, old pales, &c., but ſeems to prefer rocks of granite or ſandy grit, as in the ſpecimens now before us ſent by the Rev. Mr. Harriman. The fructification is extremely rare, and ſeveral authors confeſs they have never ſeen it.

The fronds grow looſely ſpreading or decumbent in large roundiſh tufts, and are much branched and repeatedly forked, various in breadth, ending in ſharp reddiſh points. The upper ſurface is convex, greeniſh-grey, all over powdery; the under concave, rugged or plaited, not powdery, black, having in many parts a blue or purpliſh tinge. Shields attached to the upper ſurface, elevated, concave or inflated, with a thin inflexed edge; their diſk is brown; their outſide grey and mealy like the fronds.

Profeſſor Hoffmann in his *Plantæ Lichenoſæ t.* 9. *f.* 2. gives an excellent repreſentation of the plant in a dry ſtate.

Pub. 1 Nov. 1 Published by Jas. Sowerby, London.

LICHEN prunastri.

Ragged hoary Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, much-branched, upright, leathery, soft, greenish-white, pitted and rugged; very white beneath; the segments linear, flat, acute. Shields lateral, concave, bright-brown.

SYN. Lichen prunastri. *Linn. Sp. Pl.* 1614. *Achar. Prodr.* 174. *Hudf.* 541 ? *With. v.* 4. 52. *Hull.* 296.

L. corniculatus. *Relh.* 433.

Lichenoides cornutum bronchiale molle, subtus incanum. *Dill. Musc.* 160. *t.* 21. *f.* 55 A.

FEW botanists have well understood the tribe of leafy or flat branched Lichens to which the present species belongs; indeed Dr. Acharius, in his *Prodromus* and in the Stockholm Transactions, is the first who has clearly illustrated their Proteus-like forms. We agree with him that this is the real *prunastri*, with

April 1 1801 Published by Jas Sowerby London.

36.

LICHEN stictoceros.

Dotted-horned Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, spreading, much branched, compressed, wrinkled, pale sulphur-coloured; solid and spongy within. Tubercles terminal, solitary, minute, convex, black.

WE know no synonym or account of this Lichen, which was found by our worthy friend and patron James Brodie, Esq., growing on the ground upon broken sand-banks, in the warren opposite Exmouth, Devonshire, not above 300 yards from the ferry, early in the spring of 1803.

At first sight it might be taken for *L. prunastri*, but nothing can prove more distinct when the fructification, and indeed the true nature of the fronds, are attended to. The latter grow

Sept. 1 1814 Published by Jas. Sowerby, London.

37

LICHEN fraxineus.

Leafy Ash Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, tufted, somewhat cartilaginous, pitted, smooth, greyish white; its segments linear-lanceolate, acute, jagged. Shields pale, scattered, stalked.

SYN. Lichen fraxineus. *Linn. Sp. Pl.* 1614. *Ach. Prod.* 175. *Huds.* 541. *With. v.* 4. 56. *Hull.* 297. *Relh.* 457. *Sibth.* 330. *Abbot.* 266.
Licheroides longifolium rugosum rigidum. *Dill. Musc.* 165. *t.* 22. *f.* 59.
L. arboreum ramosum scutellatum majus et rigidius, colore virescente. *Raii Syn.* 75.
Parmelia fraxinea. *Ach. Meth.* 258.
Platisma fraxineum. *Hoffm. Pl. Lich. v.* 1. 85. *t.* 18. *f.* 1, 2.

[redacted]

Aug. 1. 1781. Published by Jas. Sowerby, London.

[redacted]

LICHEN fastigiatus.

Ragged Beaked Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, much-branched, upright, leathery, glaucous-buff, smooth, pitted, without warts; the branches terminating in a curved beak. Shields numerous, scattered, nearly sessile, pale whitish buff.

SYN. Lichen fastigiatus. *Achar. Prod.* 175.
L. calicaris. *Hudf.* 540. *With. v.* 4. 51. *Hull.* 296. *Lightf.* 834. *Relh.* 432. *Abbot.* 264.
Lichenoides coralliforme, rostratum et canaliculatum. *Dill. Musc.* 170. *t.* 23. *f.* 62.

THIS, though by far less common than the preceding, is found on trees, chiefly in the most woody and rather mountainous parts of our island. Its near affinity to *L. farinaceus* has already been mentioned, but we shall proceed to show their differences. *L. fastigiatus* is equally tufted and branched,

Jane 1. 1816. Published by Dal Sowerby, London.

37.

LICHEN ſcopulorum.

Ivory Rock Lichen.

CRYPTOGAMIA Algæ.

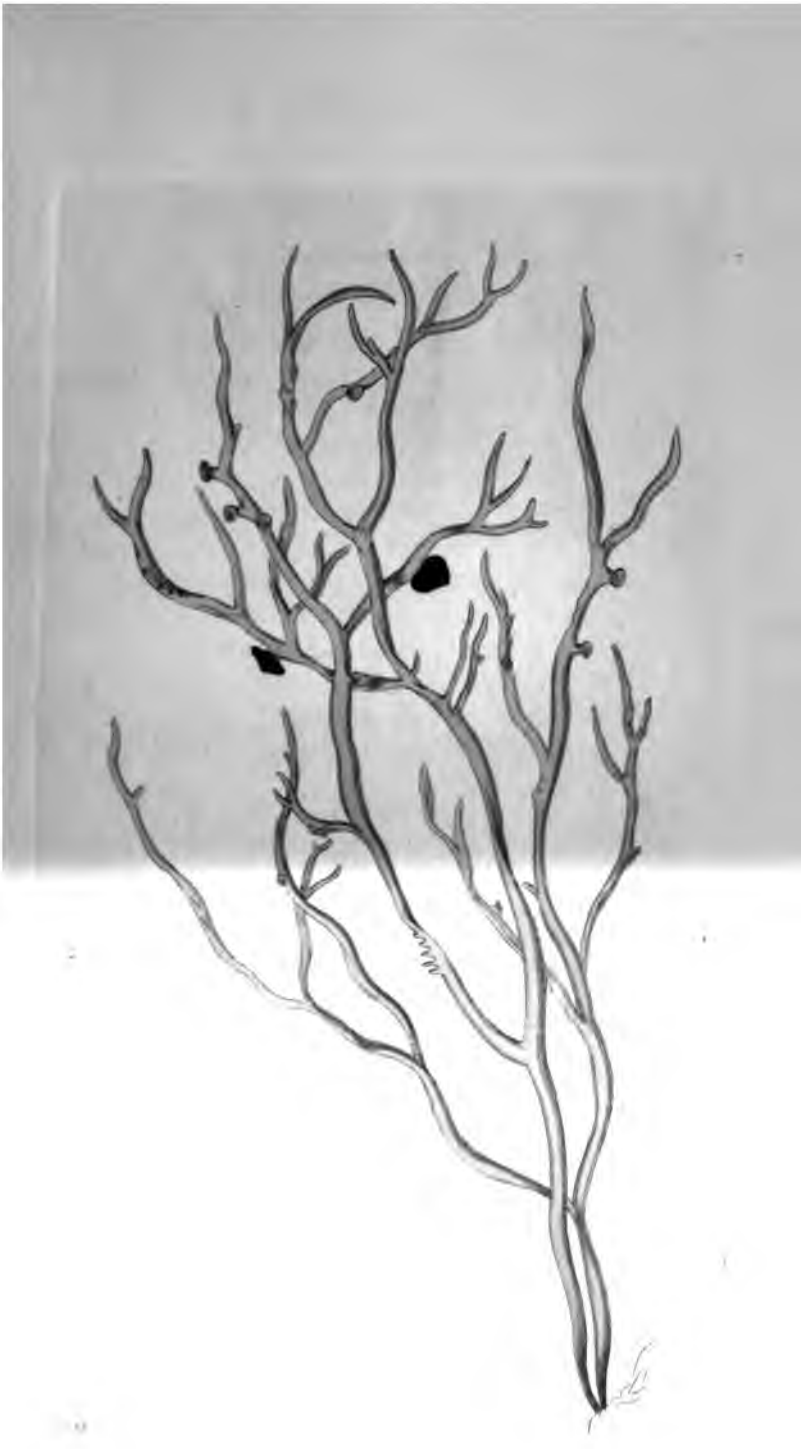
GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leafy, pendent, branched, divaricated, linear, compreſſed, poliſhed, greeniſh-white. Shields lateral, marginal, browniſh, rather convex, on ſhort ſtalks.

SYN. Lichen ſcopulorum. *Retz. Prod. ed.* 2. 282. *Dickſ. fasc.* 3. 18. *H. Dan. t.* 959. *f.* 2. *With. v.* 4. 57. *Hall.* 297.

MR. DICKSON mentions this Lichen as growing on rocks and large ſtones in Scotland and England. It is, however, entirely a maritime ſpecies. Our ſpecimens were gathered on the granite rocks of Lemorna Cove, near the Land's End, by

[redacted]



LICHEN farinaceus.
Ragged Mealy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leafy, much-branched, upright, leathery, glaucous-aſhcoloured, ſmooth, pitted; the branches tapering, ſtudded with lateral, convex, pale, mealy warts. Shields ſcattered, ſtalked, flat, pale-buff.

SYN. Lichen farinaceus. *Linn. Sp. Pl.* 1613. *Achar. Prod.* 177. *Hudſ.* 540. *With. v.* 4. 50. *Hull.* 295. *Lightf.* 833. *Sibth.* 329. *Abbot.* 265. *Dickſ. H. Sicc. faſc.* 17. 23. *Relh.* 432. *ſub n.* 872.

Lichenoides ſegmentis argutioribus, ad margines verrucoſis et pulverulentis. *Dill. Muſc.* 172. *t.* 23. *f.* 63.

A VERY common *Lichen* on the branches of moſt kinds of trees, but the ſhields are ſo rarely found, that Dr. Acharius ſuppoſes himſelf the firſt who has deſcribed or even obſerved them. The former claim cannot be diſputed; but, with reſpect to the latter, we have fine ſpecimens in full fructification gathered in Norfolk at leaſt 20 years ago by the Rev. H. Bryant. That in our plate was found in 1799 by the Rev. C. Abbot in Clapham Park Wood, Bedfordſhire. Mr. Bryant conceived his diſcovery only confirmed the ſuppoſition of Dillenius, Scopoli and others, that this *Lichen* was the other ſex of *L. calicaris* of Hudſon (*faſtigiatus* of Acharius), and that he had merely met by accident with both ſexes on one plant. We nevertheleſs are rather of the opinion of Dr. Acharius, who keeps them ſeparate, and we ſhall endeavour in this and the following plate to diſtinguiſh them.

L. farinaceus forms ſpreading much-branched tufts; its ſegments vary in breadth, but are generally very narrow, acute, flattiſh, pitted, of a pale glaucous gray, ſmooth, except for the numerous irregular powdery cracks or warts on their edges or ſides, which conſtitute the eſſential diſtinction of this ſpecies, and which in drying become almoſt white. The ſhields are flat, of a very pale buff, ſurrounded when young with an entire border of the colour of the leaf.

LICHEN pollinarius.

Mealy-cracked Leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, leathery, spreading, smooth, pitted, greenish grey, sprinkled with powdery cracks: the lobes jagged, in linear segments. Shields nearly terminal, slightly elevated, buff-coloured, with a greenish, inflexed, smooth border.

SYN. Lichen pollinarius. *Ach. Prod.* 178. *Act. Holm. ann.* 1797. 263. *t.* 11. *f.* 2.
Parmelia pollinaria. *Ach. Meth.* 264.
Lichenoides lacunosum lacerum, latius et angustius. *Dill. Musc.* 163. *t.* 21. *f.* 57.

FOR the fine specimens of this Lichen here represented we are obliged to Charles Lyell, Esq., who gathered them on an old oak in Testwood Park, New Forest, Hants. They precisely accord with every part of Dillenius's description, though that author never saw the shields. They also agree with specimens from Acharius, though he has chiefly gathered and described the more common state of the plant, as it grows on old barn doors, and seems not to have recognised the synonym of Dillenius.

The fronds grow in a tufted and spreading manner, varying greatly in size and in breadth. The white mealy cracks which appear on them when old or dry are characteristic. Their proper greenish grey hue turns to a yellowish buff with age, as Dillenius also observes. The shields stand very near, or upon, the margin, and are slightly elevated on a thick wrinkled stalk, which runs into a broad, inflexed, smooth border of the same colour and texture as the frond. The disk is flattish, mostly cracked by age, pale buff. Acharius mentions this Lichen as very good for dyeing wool or silk pale red or dark brown.

Jan. 1. 1805. Published by Jas. Sowerby, London.

LICHEN chryſophthalmus.

Golden-eyed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmoot ſhields or tubercles, in which the ſeeds are im bedded.

SPEC. CHAR. Leafy, branched, upright, yellowiſh grey, linear, toothed and fringed. Shields orange coloured, radiated.

SYN. Lichen chryſophthalmus. *Linn. Mant.* 311 *Achar. Prod.* 181. *Dickſ. Dr. Pl.* 21.

L. pulmonarius, minimus, ſubluteus, receptaculi florum coronatis, mali aurantii coloris. *Mich. Gen* 75. *t.* 36. *f.* 4. *Dill. Muſc.* 74. *t.* 13. *f.* 17.

Platiſma armatum. *Hoffm. Pl. Lich. t.* 36. *f.* 1.

A POOR fiſherman from whom Mr. Sowerby has often re ceived ſhells and other natural productions from the Weſt (England, laſt year brought him ſpecimens of this Lichen fro the branches of apple-trees in Devonſhire. No perſon ha before obſerved it in Britain; but we make no ſcruple t admit it on this authority, as it may have been overlooke

1088

1 1802 Published by Jas Sowerby London

LICHEN flavicans.

Brass-wire Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, branched, tufted and entangled, twisted, wiry, linear, compressed, angular, wavy; branches divaricated, taper-pointed. Shields lateral, nearly sessile, flat, orange, with a narrow, entire, pale border.

SYN. Lichen flavicans. *Swartz. Prod.* 147. *Ach. Prod.* 182.
L. vitreus. *Huds.* 559. *With. v.* 4. 49. *Hull.* 307.
Usnea capillacea citrina, fructiculi specie. *Dill. Musc.* 73. *t.* 13. *f.* 16.
Muscus aureus tenuissimus. *Dill. in Raii Syn.* 65.
Parmelia flavicans. *Ach. Meth.* 268.

COMMUNICATED by Mr. W. Borrer from Sussex. It grows on trees and shrubs, more commonly in Devonshire than any other county. For the shields we are obliged to

44.

LICHEN sarmentosus.

Trailing Filamentous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, hollow, pitted, whitish, repeatedly branched, somewhat forked and divaricated; ultimate branches capillary. Shields scattered, lateral, sessile, concave, greenish flesh-colour, with a pale entire border.

SYN. Lichen sarmentosus. *Ach. Prod.* 180.
L. longissimus, ex cinereo candicans, rugosus et mollior, receptaculis florum rufescentibus. *Mich. Gen.* 77. *t.* 39. *f.* 2.
Usnea loris longis dichotomis, extremitatibus tenuioribus. *Dill. Musc.* 59. *t.* 11. *f.* 2; copied from Micheli.
U. dichotoma. *Hoffm. Pl. Lich. t.* 72.
Parmelia sarmentosa. *Ach. Meth.* 271.

FOUND, for the first time in Britain, by Messrs. Hooker and Borrer in 1808, on the Scottish mountains of Ben Luyhal, Sutherland, and Cairn-gorm, Inverness-shire.

It grows sometimes on old trunks of trees, more rarely on rocks, and is a very distinct species from all the filamentous Lichens we have hitherto described. The fronds are of an ivory white, creeping, much branched and divaricated, irregularly pitted, and sometimes powdery, on the surface, hollow, without any central thread; their ultimate branches very fine and numerous. Shields, which we have received from Dr. Acharius only, small, lateral, sessile, with a hollow, greenish, somewhat flesh-coloured, disk, and a smooth elevated border, of the substance of the frond.

Fig. 111. Moulded by Jas. Haverty London.

LICHEN ochroleucus.

Shrubby Sulphureous Lichen.

CRYPTOGAMIA Algæ.

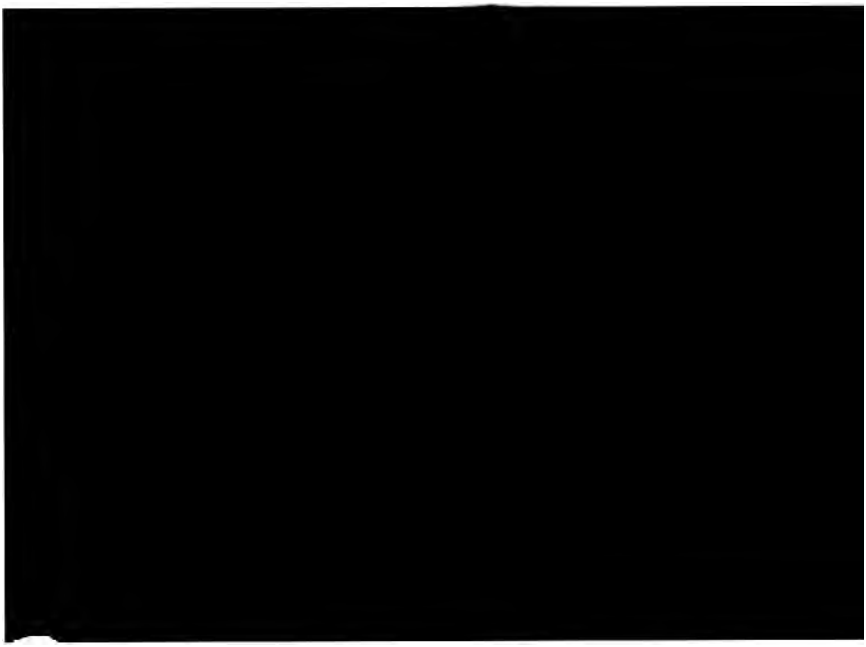
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous, bushy, repeatedly branched, somewhat tubular, pitted, sulphur-coloured; ultimate branches divaricated, zigzag, entangled, with forked points. Shields nearly sessile, brown, with a pale wavy border.

SYN. Lichen ochroleucus. *Ehrh. Beitr. fasc.* 3. 82. *Ach. Prodr.* 215. *Dicks. Crypt. fasc.* 3. 19. *With.* v. 4. 46. *Hull.* 306.

Usnea ochroleuca. *Hoffm. Pl. Lich.* v. 2. 7. *t.* 26. *f.* 2.

Parmelia ochroleuca. *Ach. Meth.* 271.



Jan: 1. 1791 published by Jno. Sewell by London

46

LICHEN jubatus.

Wiry Lichen, or Rock Hair.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, cartilaginous, smooth, round, hollow, very much branched, of a smoky brown: its branches tapering, often compressed at their divarications. Warts tumid, powdery, white. Shields sessile, blackish, with an entire margin.

SYN. Lichen jubatus. *Linn. Sp. Pl.* 1622. *Ach. Prod.* 219. *Huds.* 561. *With. v.* 4. 46. *Hull.* 306. *Relh.* 473. *Abbot.* 270. *Lightf.* 891. *Schrad. Journ. v.* 1. 83. *t.* 3. *f.* 4.

Usnea jubata nigricans. *Dill. Musc.* 64. *t.* 12. *f.* 7.

Muscus corallinus saxatilis fœniculaceus. *Raii Syn.* 65.

Parmelia jubata. *Ach. Meth.* 272.

β. Lichen chalybeiformis. *Linn. Sp. Pl.* 1623. *Ach. Prod.* 220. *With. v.* 4. 47. *Hull.* 306. *Lightf.* 892.

Usnea rigida, horsum vorsum extensa. *Dill. Musc.* 66. *t.* 13. *f.* 10.

[redacted]

May 1st 1817. Published by Jos. Arch by London.

47.

LICHEN Roccella.

Dyer's Lichen, or Orchall.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Shrubby, ſolid, cylindrical, without leaves, but little branched. Tubercles alternate, powdery.

SYN. Lichen Roccella. *Linn. Sp. Pl.* 1622. *Dickſ. Crypt. faſc.* 3. 19. *Smith's Tour, v.* 1. 198.

Coralloides corniculatum faſciculare tinctorium, Fuci teretis facie. *Dill. Muſc.* 120. *t.* 17. *f.* 39.

MR. DICKSON has lately admitted this Lichen as a Britiſh native, on the authority of Mr. Goſſelin, who found it in Guernſey. Our ſpecimen was gathered by Lord Viſcount Lewiſham on Portland Iſland. It grows on maritime rocks, very common in the Mediterranean and the Levant. Linnæus had it too from China.

[redacted]

48.

LICHEN articulatus.

Jointed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Filamentous, pendulous, cracked and tumid. Tubercles fleſh-coloured, rugged.

SYN. Lichen articulatus. *Linn. Sp. Pl.* 1623. *Hudſ. Fl. An.* 561. *With. Bot. Arr. v.* 3. 219. *Sibth. Oxon.* 335.

Muſcus arboreus nodoſus. *Raii Syn.* 65.

Uſnea capillacea et nodoſa. *Dill. Muſc.* 60. *t.* 11. *f.* 4.

β Lichen barbatus. *Linn. Sp. Pl.* 1622. *Hudſ. Fl. An.* 561. *With. Bot. Arr. v.* 3. 220. *Lightf. Scot.* 890.

Uſnea barbata, loris tenuibus fibroſis. *Dill. Muſc.* 63. *t.* 12. *f.* 6.

SENT by Dr. Pulteney from Dorſetſhire with the laſt. We do not hefitate to make the *L. articulatus fig.* 1, and *barbatus fig.* 2, one ſpecies, the propriety of which was firſt hinted by Mr. Lightfoot in *Flo. Scot.*, and we have adopted the ſame opinion from having alſo examined the ſpecimens of Dillenius, which in this caſe are the original authority. Both are found hanging upon trees in old woods in England and Scotland. The *barbatus*, which is the leaſt uncommon of the two, is leſs tumid, and not always ſo full of tranſverſe cracks as the *articulatus*. The latter has never yet been found in fructification with us, but in the ſouth of Europe it bears preciſely the ſame tubercles as *barbatus*, (ſee *Smith's Tour, v.* 1. 312 *and* 336.) which are ſmall, very convex, rugged, and of a pale fleſh-colour. By theſe tubercles, and the ſwellings of the ſtem, (the interſtices of which are moſt generally cracked, and diſcover the central fibre, as in *L. plicatus*) the ſpecies before us, and its variety, may be eaſily known from all others of the ſame tribe.

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49.

LICHEN floridus.

Flowery Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

Spec. Char. Filamentous, furniſhed with a central thread, much branched, erect, greeniſh gray; branches ſpreading, round, fibrous, warty, bearing broad flat ſhield-like radiated dilatations, of their own colour. Tubercles on the branches, lateral, fleſh-coloured, rugged.

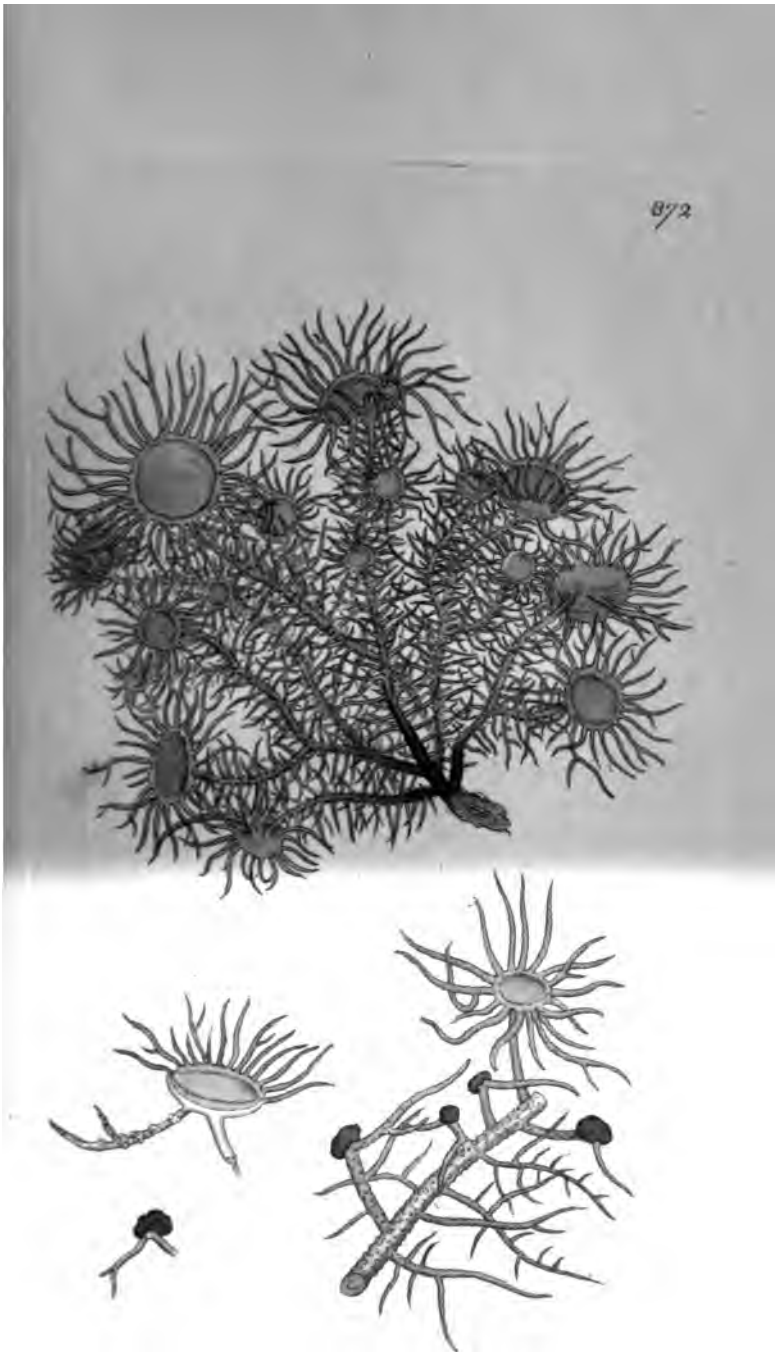
Syn. Lichen floridus. *Linn. Sp. Pl.* 1624. *Hudſ.* 560. *With. v.* 4. 50. *Hull.* 307. *Relh.* 440. *Dickſ. H. Sicc. faſc.* 11. 25. *Achar. Prod.* 224.

Uſnea vulgatiſſima tenuior et brevior, cum orbiculis. *Dill. Muſc.* 69. *t.* 13. *f.* 13.

Muſcus arboreus cum orbiculis. *Raii Syn.* 65.

GATHERED at Haſod, Cardiganſhire. It chiefly grows on dead branches, but the radiated diſks are ſeldom found, except on the higher trees in old woods; and the tubercles, or real fructification, having never before been even ſuſpected to exiſt, are here firſt preſented to the curious botaniſt.

The ſtems form upright buſhy pale greeniſh tufts, riſing from a hard black base, and are round, compoſed of a cruſtaceous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1364

Sept. 1. 1804. Published by J. Sowerby, London.

51.

LICHEN plicatus.

Stringy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Filamentous, pendulous; the branches entangled. Shields radiated.

SYN. Lichen plicatus. *Linn. Sp. Pl.* 1622. *Hudſ. Fl. An.* 560. *With. Bot. Arr. v.* 3. 222. *Relb. Cant.* 441. *Lightf. Scot.* 889.

Muſcus arboreus, Uſnea Offic. *Raii Syn.* 64.

Uſnea vulgaris, loris longis implexis. *Dill. Muſc.* 56. *t.* 11. *f.* 1.

RARELY found hanging from the branches of old trees in dark ſhady woods, in Scotland as well as England. Dr. Pulteney communicated it from Dorſetſhire.

The whole plant is from one to two feet, or even more, in length, forming a thick entangled maſs of branching fibres, which are cylindrical, all more or leſs divaricated and undulated, none of them ſtraight. They are of an uniform greenish

LICHEN triſtis.

Dark radiated Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Shrubby, branched, ſomewhat compreſſed, ſolid, blackiſh; the branches acute. Shields of the ſame colour, flattiſh, radiated.

SYN. Lichen triſtis. *Weber. Gotting.* 209. *t.* 5. *With.* 43. *Hull.* 305.

L. radiatus. *Hudſ.* 559. *Dickſ. H. Sicc. faſc.* 9. 25.

L. corniculatus. *Lightf.* 885.

Cornicularia triſtis. *Hoffm. Pl. Lich. t.* 34. *f.* 1.

Coralloides corniculatum, Fuci tenuioris facie. *Dill. Muſc.* 118. *t.* 17. *f.* 37.

A NATIVE of alpine micaceous rocks in Scotland, Wales,

[redacted]

720.

LICHEN hiſpidus.

Prickly Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Shrubby, ſolid, much branched, ſmooth, dark brown; branches divaricated, rather compreſſed, terminating in numerous ſpines. Shields with a jagged prickly margin.

SYN. Lichen hiſpidus. *Lightf.* 883. *With. v.* 4. 43. *Sibth.* 335.

L. iſlandicus γ. *Hudſ.* 539.

Lichenoides non tubuloſum ramoſiſſimum, fruticuli ſpecie, ruſo-nigreſcens. *Raii Syn.* 66.

Coralloides fruticuli ſpecie fuſcum, ſpinoſum. *Dill. Muſc.* 112. *t.* 17. *f.* 31.

A NATIVE of heaths, chiefly in mountainous places, not very uncommon, but the ſhields are very rarely indeed to be met with. Our ſpecimen was gathered near Beverley, by R. Teeſdale, Eſq. F. L. S.

Jan.y 1790. Published by J. Sowerby London

1853.

Pl. 1853. Published by Jas. Newerby, London.

Published by T. Cowie & Co. London

LICHEN pubescens.

Black Tufted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, much branched, decumbent, entangled, round, rough, olive black. Shields concave, reddish brown, or blackish, with a margin of their own substance and colour.

SYN. Lichen pubescens. *Linn. Sp. Pl.* 1623. *Fl. Suec. ed.* 2. 426. *Ach. Prodr.* 217.
L. scaber. *Huds.* 562, 661.
L. exilis. *Lightf.* 894. *With. v.* 4. 47. *Hull.* 306.
L. intricatus. *Ehrh. Crypt.* 80.
Cornicularia pubescens. *Ach. Meth.* 305.
Conferva atro-virens. *Dillw. Conf. t.* 25. & *t.* D. *Syn.* 60. *Pref.* 5.

WE have gathered this on Ben Lomond, as well as in Cardiganshire. It always grows, as Acharius well observes, on wet or dripping rocks, not, like most of its tribe, in dry open spots. The shields, a very great botanical rarity, have obligingly been lent us by the Rev. H. Davies, who gathered them in company with Mr. Hudson, and who confirms the synonym of that author, as the Linnæan herbarium establishes that of Linnæus. Dillenius seems to have been unacquainted with this *Lichen*, according to Mr. Davies, whose paper on this, and several species near it, will appear in the 11th vol. of the Linn. Soc. Transactions, and who has examined his herbarium.

This is much smaller than any British *Lichen* of the same sort, and grows decumbent, in dense entangled patches, of an olive black with some polish. Its numerous branches are rough with minute points, their ends acute. Shields lateral, sessile, scattered, small; when young concave, bright reddish brown, semitransparent, with a smooth margin of their own substance and colour; by age they become darker and flatter, and the margin rather uneven.

2318.

Sowerby sc. published by J. & C. Sowerby London

LICHEN heteromallus.

Black Plush Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Minutely shrubby, densely tufted, erect, entangled, cylindrical, corymbose, black, with palish notched tips.

Gathered by Mr. Sowerby, 10 or 12 years ago, in the autumn, growing in cracks, on the bark of old elms in Hainault forest. We cannot find any characters suitable to it in Acharius, to whose genus of *Cornicularia* it undoubtedly belongs.

The fronds form wide dense black patches, from a quarter to half an inch thick, harsh and rigid, but not brittle, when dry; soft, elastic, and spongy when wet. Each is repeatedly branch-

Feb 2 1811 published by Jos Lowry London

58.

LICHEN uncialis.

Short perforated Lichen,

CRYPTOGAMIA Alga.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Shrubby, tubular, perforated; the little branches very ſhort and pointed.

SYN. Lichen uncialis. *Linn. Sp. Pl.* 1621. *Hudſ. Fl. An.* 555. *With. Bot. Arr. v.* 3, 218. *Relh. Cant.* 439.

Lichenoides tubuloſum, cauliculis mollioribus & craſſioribus, majus & minus. *Raii Syn.* 67.

Coralloides perforatum majus, molle & craſſum. *Dill. Muſc.* 98. *t.* 16. *f.* 21.—& minus, molle & tenue. *Ibid.* 99. *f.* 22.

LICHEN uncialis is found on heaths nearly as common as

J. Sowerby Del. 1794

LICHEN pungens.

Pointed shrubby Lichen.

CRYPTOGAMIA Algæ.

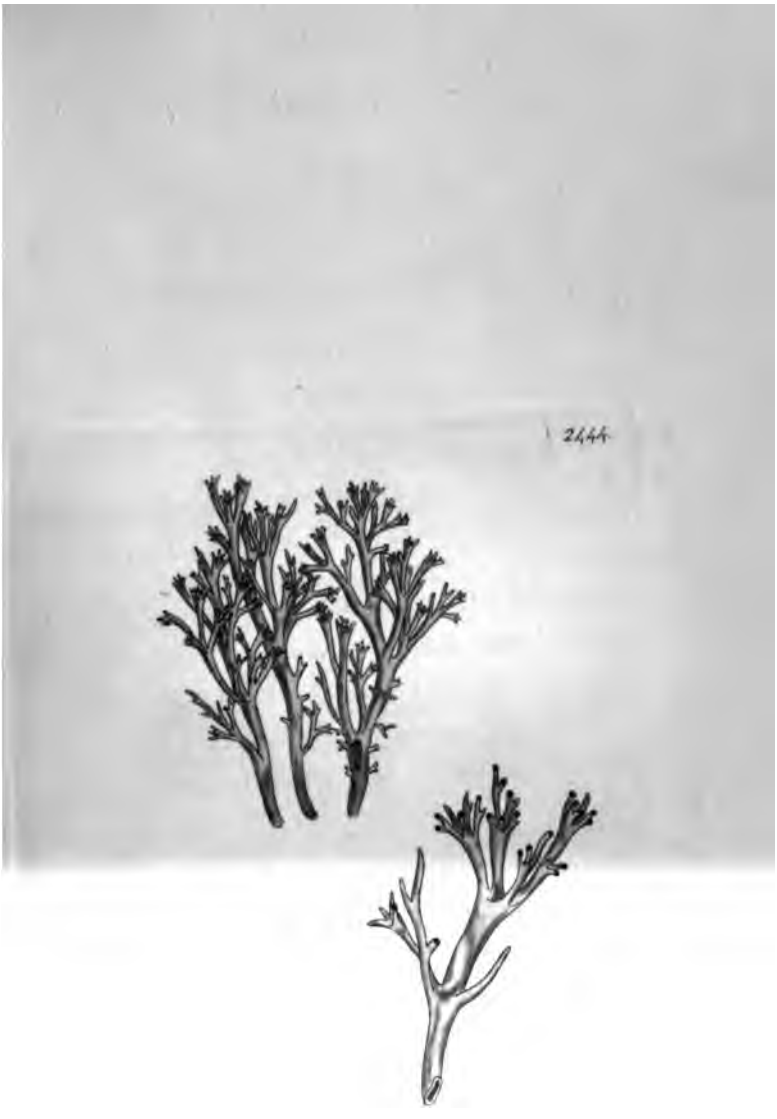
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, tubular, grey, forked, much branched, without axillary perforations; branches twisted and entangled, taper-pointed. Tubercles minute, terminal, solitary, brownish-black.

SYN. Lichen pungens. *Ach. Prod.* 202.
Bæomyces pungens. *Ach. Meth.* 354.

GATHERED upon Esher Common, in Surry, by Mr. W. Borrer, and on that gentleman's authority, so great in this tribe, we publish this Lichen under the above name, having ourselves no materials for forming a decisive judgement. For this an original specimen from Dr. Acharius would be necessary.

It comes very near *L. uncialis*, *t.* 174, but is said to want the axillary perforations. We find however, not very unfrequently, lateral fissures below the origin of the clustered branches, but these are indeed different from the round central openings of *uncialis*. The branches too are more twisted and zigzag; Acharius says they are more brittle. The colour is a greenish grey. The numerous, sharp, tapering, ultimate branches are tipped with a brownish black; of which colour also are the small, solitary, round tubercles found at the extremities of some of them.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LICHEN rangiferinus.

Rein-deer Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, tubular, very much branched, and hoary; the little branches divaricated and matted.

SYN. Lichen rangiferinus. *Linn. Sp. Pl.* 1620. *Hudf. Fl. Ang.* 537. *Wilk. Bot. Arr.* v. 3. 216. *Relh. Cant.* 438.

Lichenoides tubulosum ramosissimum, fruticuli specie, canescens. *Ray Syn.* 66.

Caralloides montanum fruticuli specie ubique canescens. *Dill. Musc.* 107. *t.* 16. *f.* 29.—&C. frutic. specie canescens, corniculis rufescentibus, *ibid.* 110. *t.* 16. *f.* 30.

THIS moss, the chief clothing of the northern, alpine

LICHEN vermicularis.

Vermicelli Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which t[redacted] seeds are imbedded.

SPEC. CHAR. Cartilaginous, leafless, snow-white. Stal[redacted] hollow, threadshaped, tapering at each end, acut[redacted] procumbent, subdivided.

SYN. Lichen vermicularis. *Swartz in Linn. fil. Met*[redacted] *Musc.* 37. *Ach. Prod.* 205. *Dicks. Crypt. fas*[redacted] 2. 23. *t.* 6. *f.* 10. *With. v.* 4. 41. *Hull.* 304.
L. subuliformis. *Ehrh. Crypt.* 30.
L. tauricus. *Wulf. in Jacq. Coll. v.* 2. 177. *t.* 12. *f.* 2.
L. tubulatus, nivei ferè candoris, ramosus, apicibus recurvis acutis. *Scheuchz. It. Alp. v.* 1. 137. *Dill. Musc.* 91. *t.* 15. *f.* 14, E. (not F, as erroneously printed near the bottom of *p.* 1836.)
Bæomyces vermicularis. *Ach. Meth.* 359.
Cladonia subuliformis. *Hoffm. Pl. Lich. v.* 2. 15. *t.* 29. *f.* 1—3.

FIRST observed on the Scottish mountains by Mr. Dickson. Our specimens were gathered by Mr. Turner on the top of

[redacted]

2029

Fine ivory published by J. Lowry, London

LICHEN Papillaria.

Papillary Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

Spec. Char. Cartilaginous; leaflets minute, rounded, imbricated. Stems moſtly ſimple, erect, ſhort, tubular, inflated, whitiſh. Tubercles terminal, ſolitary, globoſe, brown.

Syn. Lichen Papillaria. *Achar. Prod.* 88. *Dickſ. Crypt. faſc.* 1. 13. *With. v.* 4. 45. *Hull.* 305.

L. madreporæformis. *Wulf. in Jacq. Coll. v.* 3. 105. *t.* 3. *f.* 2.

Coralloides minimum fragile, Madreporæ inſtar naſcens. *Dill. Muſc.* 107. *t.* 16. *f.* 28.

FOUND on dry expoſed heaths in the winter ſeaſon. Dillenius mentions it as growing near Farnham. Mr. D. Turner ſent it from Yarmouth, and we have gathered it on Mouſehold heath, Norwich, towards Rackheath.

Surely Mr. Dickſon and others, who have placed this Lichen in the Linnæan diviſion of *Graticulaſ.* have come nearer the

Aug.t 1. 1801. Published by Jas Sowerby, London.

LICHEN delicatus.

Delicate Spurious Cup Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Leaves very minute, stalked, many-cleft, crisped, jagged, mealy, glaucous-grey. Fruit-stalks compressed, simple or divided. Tubercles clustered, tumid, pale brown; at length black.

Syn. Lichen delicatus. *Ehrh. Crypt.* 247. *Ach. Prod.* 199.

L. parasiticus. *Hoffm. Enum.* 39. *t.* 8. *f.* 5.

Baeomyces delicatus. *Ach. Meth.* 327.

COMMUNICATED to us by Mr. W. Borrer, who observed it on rotten rails in St. Leonard's forest, Sussex, for the first time in Britain. His specimens agree with the original one of

[redacted]

This Plate published by R. Ferney, London.

64.

LICHEN microphyllus.

Small-leaved Spurious Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leaves minute, somewhat imbricated, rounded, nearly entire. Fruit-stalks simple, tubular, smooth. Tubercles solitary, capitate, convex, brown, somewhat lobed.

SYN. Bæomyces microphyllus. *Achar. MSS.*

GATHERED by Mr. W. Borrer, on wet heathy places in Tilgate and St. Leonard's forests, Sussex, in the winter, but not frequently. It was at first thought the *Bæomyces cariosus* of Acharius, but, on being sent to that able botanist, was determined by him to be a new species, and named as above.

1782

Engr. Colley. Published by Jas. Sowerby, London.

LICHEN caespititius.

Green Turfy Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male. scattered warts.
Female. smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Fronds clustered, ascending, leafy, pinnatifid, cut and crisped; bright green above; white beneath. Tubercles from the disk of the leaf, convex, reddish brown, on tubular stalks.

Syn. Lichen caespititius. *Persoon in Ust. Annal. Sci. Nat. Mart. 525.*

THE new knowledge we have of this elegant plant is from specimens gathered on the mossy trunk of an aged oak in the New Forest, Hants, by C. Lyell, Esq., last October. We have no specimen from Professor Acharius, nor from the original discoverer and describer of the species, the celebrated Persoon; but their descriptions leave no doubt upon our

1796

Pub.1 May 1 Published by Jas. Sowerby London.

LICHEN endivifolius.

Endive-leaved Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Fronds spreading, leafy, cartilaginous, deeply lobed; segments forked and pinnatifid, flattish, slightly twisted; yellowish green above; white beneath. Cups from the upper side, small, turbinate, mostly simple. Tubercles marginal, reddish brown.

SYN. Lichen endivifolius. *Dicks. Crypt. fasc.* 3. 17. *H. Sicc. fasc.* 9. 24. *Ach. Prodr.* 195. *With. v.* 4. 60. *Hull.* 298.

L. pyxidatus terrestris, endiviæ crispæ folio, superne ex flavo et glauco subvirescens, inferne albidus, pyxidulis plerumque simplicibus, receptaculis florum rufescentibus. *Mich. Gen.* 82. *t.* 42. *f.* 3.

Bæomyces endivifolius. *Ach. Meth.* 351.

MICHELI records his having received this from London; yet it escaped the mention of British writers, till Mr. Dickson noticed it, growing on the ground, in heathy barren places in Surry and Scotland. We are obliged to him for specimens.

No other of this cup-bearing tribe has such ample foliage, not even *cæspititius*, *t.* 1796, whose synonyms Acharius in his *Prodromus* confounds with this; but he corrects himself in his *Methodus*. The fronds spread in broad patches, and are rendered conspicuous on black turfy soil by the bright yellowish green of their upper side, and the pure white of the back, which in dry weather is turned upwards; otherwise the segments are flat, or slightly twisted. Their form is nearly linear, deeply forked and pinnatifid, with wavy edges. From the upper surface spring the cups, very minute when young; but such as attain the greatest perfection are near an inch high, turbinate, with a more or less leafy margin, bearing small, reddish, almost sessile tubercles.

Arc. ant. vivo del by Jos. Sowerby London

67.

LICHEN anomiæus.

Confused Brown-headed Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous, brittle, ash-coloured. Stems cylindrical, rough and leafy. Cups turbinate, closed; at length dilated and radiated. Tubercles marginal, sessile or stalked, brownish-black. Leaves imbricated, crenate, minute.

SYN. Lichen pyxidatus β. *Huds.* 554.
Baeomyces anomæus. *Ach. Meth.* 349.
Coralloides parùm ramosum, tuberculis fuscis. *Dill. Musc.* 97. *t.* 15. *f.* 20.

DILLENIUS gathered this on Woolwich heath. We found it on the Pentland hills near Edinburgh in 1762, and determined his synonym, but it is not to be found in Lightfoot. Mr. R. Farmer took the specimens in our plate from the old thatch of Mr. Crowe's barn at Lakenham, in March 1805.

This is one of the most inelegant and disorderly of the cup

1867

Spr. colat. Published by Jas. Sowerby London.

LICHEN bellidiflorus.

Daisy-flowered Cup Lichen.

CRYPTOGAMIA Alga.

Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Char. Cartilaginous, pale green. Stems cylindrical, rough and leafy. Cups clubshaped, closed. Tubercles marginal, globose, minute, crowded, scarlet. Leaves imbricated, angular, crenate, minute.

Syn. Lichen bellidiflorus. *Ach. Prod.* 194.
Baeomyces bellidiflorus. *Ach. Meth.* 335.

THIS most elegant species was discovered last summer on the high mountain of Ben Nevis in Scotland, by Mr. Turner and Mr. W. J. Hooker. We had long ago received the same from the coast of Labradore, and from Professor Acharius, the only writer who has described it.

The crust is composed of numerous, small, lax, angular leaves, crenate and acutely lobed, of a light bright green, not grey or glaucous. Stems numerous, upright, various in height, cylindrical, unbranched except at the summit, clothed with small scaly foliage; the base slender, and more or less orange or tawny. Cups swelling from a taper base upwards, shallow [illegible] borders and segments crowded with innu- [illegible] of a rich deep scarlet,

Sowerby, London.

LICHEN filiformis.

Thread-shaped Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup-shaped, cartilaginous, greenish white. Leaves imbricated, sinuated and crenate. Stalks cylindrical, simple, scaly. Cups cylindrical, bordered with minute scarlet tubercles.

SYN. Lichen filiformis. *Ach. Prod.* 193. *With. v.* 4. 38. *Hull.* 303. *Relh.* 470. *Sibth.* 333. *Abbot.* 263.

L. pyxidatus ζ, filiformis. *Huds.* 552.

L. tubiformis. *Lightf.* 871.

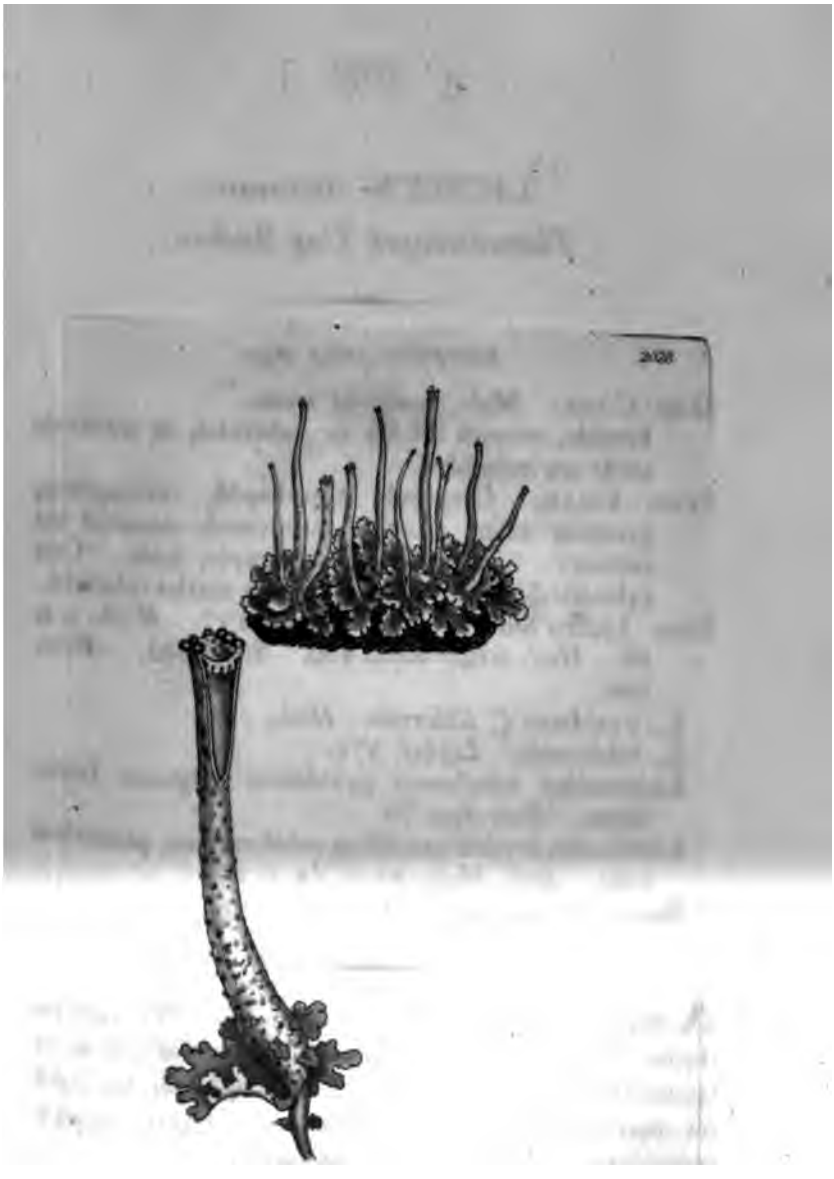
Lichenoides tubulosum pyxidatum exiguum fusco-virens. *Raii Syn.* 70.

Coralloides scyphis gracilibus tubiformibus, pedicularis folio. *Dill. Musc.* 85. *t.* 14. *f.* 10.

Byssaceus bacillaris. *Ach. Meth.* 329.

A NATIVE of mountainous turfy heaths. We have ga-

[redacted]



Jane Lacey published by J. Somerby, London.

LICHEN cornutus.

Horned Cup Lichen.

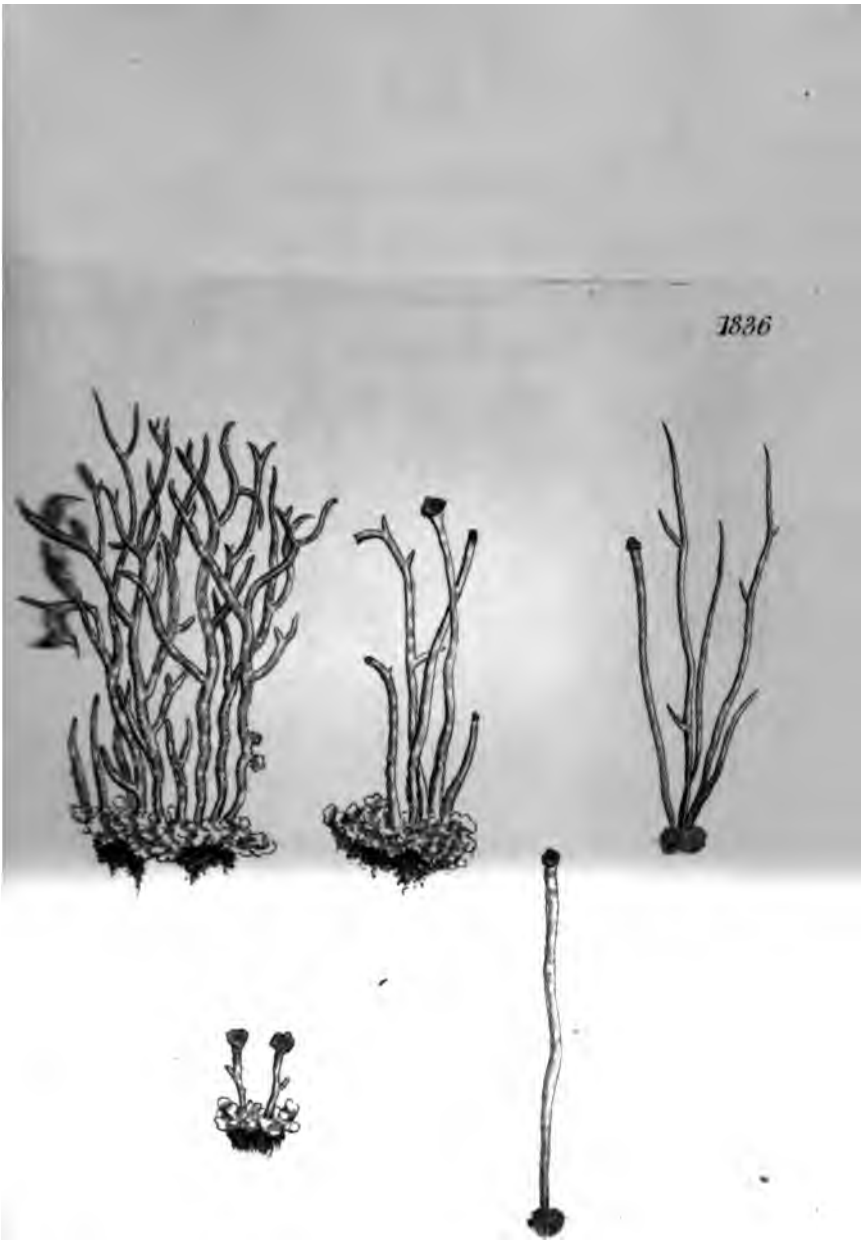
CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup-shaped, cartilaginous, greyish greenish white, with numerous awl-shaped barren branches. Cups cylindrical, bearing scarlet tubercles.

SYN. Lichen cornutus. *Linn. Sp. Pl.* 1620. *Acharius Prod.* 192. *With. v.* 4. 39. *Hull.* 304. *Relh.* 470. *Sibth.* 333. *Abbot.* 269. *Lightf.* 875.
L. pyxidatus λ. *Hudson* 553.
Baeomyces cornutus. *Ach. Meth.* 343.
Coralloides vix ramosum, scyphis obscuris. *Dill. Musc.* 90. *t.* 15. *f.* 14, A, C, F.
Lichenoides tubulosum cinereum non ramosum. *Raii Syn.* 68.

FOUND in woody or heathy, rather mountainous, places. The crust consists of little round lobed leaves, like those of *L. radiatus*, but somewhat of a more grey hue, as indeed is the whole plant. The stalks are from one to two inches, or



Lond. 1836. Published by Jas. Sowerby London.

LICHEN gracilis.

Slender Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male scattered warts.

Female, smooth shields or tubercles, in which seeds are imbedded.

SPEC. CHAR. Cup-shaped, long, slender, smooth, tilaginous, greenish brown, at length somew branched. Cups conical, sharply toothed. bercles brown. Leaves minute.

SYN. Lichen gracilis. *Linn. Sp. Pl.* 1619. *Prod.* 191. *With. v.* 4. 37. *Hull.* 303. *Lightf.* 8

L. pyxidatus *w*. *Huds.* 555.

Bæomyces gracilis. *Ach. Meth.* 344.

Coralloides scyphiforme serratum elatius, caulibus cilibus glabris. *Dill. Musc.* 88. *t.* 14. *f.* 13.

TO determine the species among the Cup-bearing Liche one of the most difficult problems in botany. Mr. Hud cuts the Gordian knot by uniting them all into one, but su nothing can be more rash. On the other hand, it may perh be allowed that other botanists have subdivided them bey the limits of Nature. If any of them be distinct species, in our plate is one. It grows in mountainous heathy or woody places, nor is it in the northern counties unfrequ bearing fruit at all seasons.

The leaves, which form a kind of crust, are minute, lo and crenate. Stems round, hollow, long and slender, mo very smooth, olive-coloured, brown upwards, when ba sharp-pointed, but generally terminating in small, coni brown cups, sharply and irregularly toothed at their edges, there studded with little, round, smooth, chesnut-colou tubercles. The margins of these cups are at length prol rous, and sometimes the main stem itself is divided.


1284

LICHEN radiatus.

Radiated Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in whic
seeds are imbedded.

SPEC. CHAR. Cup-shaped, somewhat cartilagi
greenish white. Stalks elongated, slender, pow
Cups irregularly radiated, their points tipped
small acute reddish tubercles.

SYN. Lichen radiatus. *Schreb. Lips.* 122. *Ach.*
130. *With.* v. 4. 38. *Hull.* 303. *Sibth.* 3
L. [illegible] *Huds.* 555.
Baeomyces radiatus. *Ach. Meth.* 342.
Coralloides scyphiforme cornutum. *Dill. Musc*
t. 15. f. 16.

COMMUNICATED from Norfolk by Mr. Turner. It g
in shady woods, on the ground. The crust consists of

1835. Published by Jas Sowerby London.

LICHEN sparassus.

Torn-coated Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Fronds cartilaginous, minute, lobed and cut. Stems cylindrical, repeatedly branched, rigid, ash-coloured, rough with innumerable scaly leaflets. Cups minute, toothed, pervious, repeatedly proliferous from their margins. Tubercles clustered, brown.

SYN. Bæomyces sparassus. *Ach. Meth.* 346.

GATHERED in mossy woods at Hafod, Cardiganshire, in 1797. It is perhaps not uncommon in such places. Our specimens agree with some from Acharius.

The original foliage is minute and evanescent, lobed and cut, green above, white beneath, but the whole surface of the stems is nearly clothed with similar leaflets, having a scurfy or scaly appearance, and where naked seeming as if it had been plucked bare. The stems form large tufts, adhering to each other and to the surrounding moss or grass, so as to break when gathered, especially if tender from wet. They are about two inches high, tubular, thin, erect, repeatedly branched, rigid though brittle, cracked or perforated above the origin of every branch, and ending in very small, compound, irregular, toothed or forked cups, whose centre is also pervious. Innumerable little brown crowded tubercles terminate the points or teeth of the cups.—Acharius considers the *L. ventricosus* of Hudson, and of his own *Prodromus*, p. 189, Dill. t. 15. f. 17, as a variety of this. Indeed there seems to be but a shade of difference between them.

2362

Do. as published by J. & F. Lindley London.

LICHEN deformis.

Clumsy Indented Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leathery, pale yellowish grey. Stems tubular, thick, mostly simple. Cups small, irregular, sharply toothed. Tubercles scarlet, minute. Leaves roundly lobed.

SYN. Lichen deformis. *Linn. Sp. Pl.* 1620. *Fl. Lapp.* n. 455. t. 11. f. 5. *Achar. Prod.* 189. *With.* v. 4. 38. *Hull.* 303. *Lightf.* 876. *Relh.* 470.

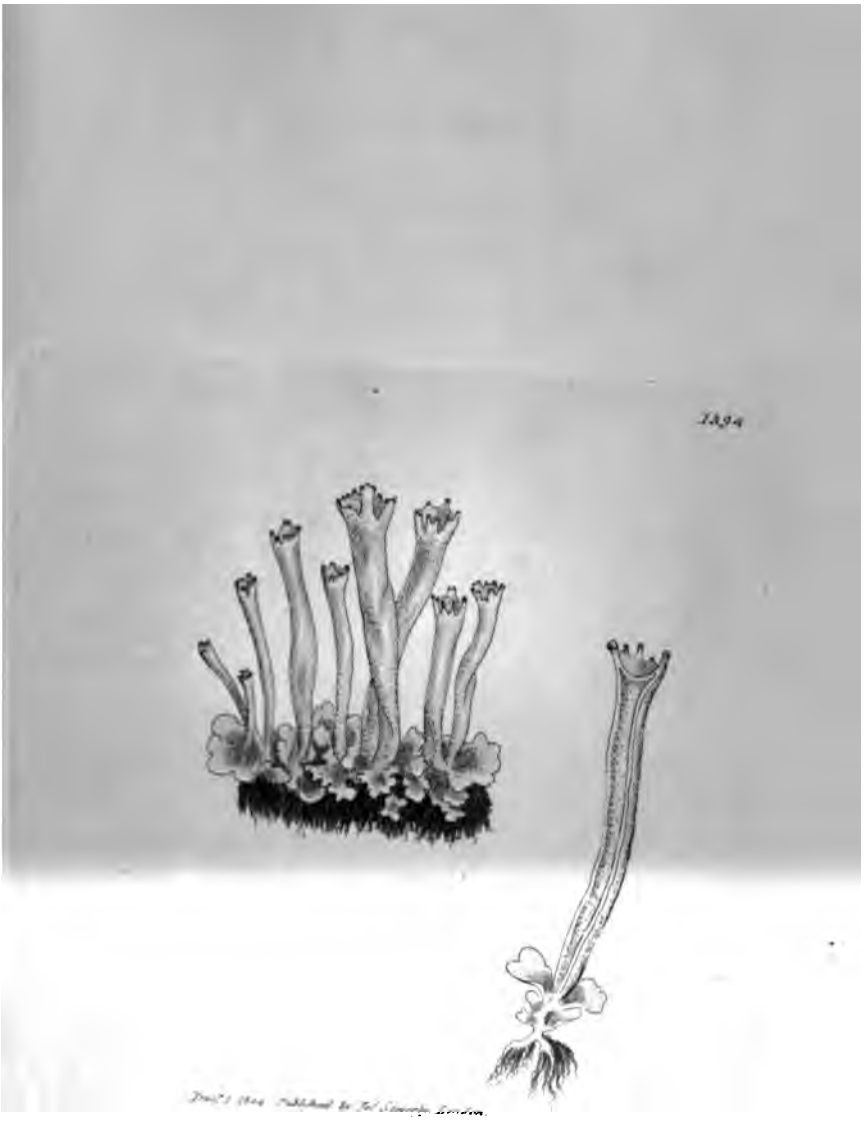
L. pyxidatus. *Huds.* 554.

Lichenoides tubulosum minus ramosum, cauliculis crassioribus difformibus. *Raii Syn.* 68.

Baeomyces deformis. *Achar. Meth.* 334.

Coralloides crassius subtus canum, calicibus dentatis. *Dill. Musc.* 95. t. 15. f. 18.

[redacted]


1894

LICHEN digitatus.

Fingered Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup-shaped, pale grey, mealy. Stalks subdivided, digitate and radiating. Tubercles terminal, deep scarlet. Leaves minute, lobed and crenate.

SYN. Lichen digitatus. *Linn. Sp. Pl.* 1620. *Ach. Prod.* 188. *With. v.* 4. 39. *Hull* 304. *Lightf.* 874. *Relh.* 469.

L. pyxidatus ξ. *Huds.* 554.

Lichenoides coralliforme, apicibus coccineis. *Raii Syn.* 68.

Bæomyces digitatus. *Ach. Meth.* 333.

Coralloides ramulosum, tuberculis coccineis. *Dill. Musc.* 96. *t.* 15. *f.* 19.

ONE of the most beautiful of its family, found on rotten trees, or on the ground, in mountainous places, but not frequently. The late Mr. J. Burgess Mac-Garroch gathered our specimens near Kirkmichael, Dumfries-shire. The present plant is considered as nearly related to *L. cocciferus*, *t.* 2051, but differs in having scarcely any form of a cup, but in its stead numerous branches spring from one centre, each being either simple or divided, and tipped with a tubercle of a rich deep scarlet, that elegantly contrasts with the grey mealiness of the stalks and finely divided foliage.

Hypocrypha ex ic. Linn.

LICHEN [illegible]

[illegible] Lichen.

CRYPTOGAMIA [illegible]

[illegible] Lichen [illegible]

[illegible] monoecious, in which the [illegible] monoecious.

[illegible] Lichen [illegible], pale greenish-grey, [illegible] Lichen [illegible] [illegible] notched. Tubercles [illegible] [illegible] Leaves [illegible], lobed and [illegible].

[illegible] [illegible] Lichen [illegible] *Pl.* 1618. *Ach.* [illegible] *Fl.* 304. *Relh.* [illegible] 33. *Hoffm.* [illegible] *Florin. Crypt.* 168. [illegible] Lichen [illegible]

[illegible] monoecious [illegible] monoecious among [illegible] Lichen [illegible] *Dill.* [illegible]

[illegible] Nature is by no means [illegible] ing, and in va-

(Aug 1819) published by Jas Sowerby London

LICHEN fimbriatus.

Fringed Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cup-shaped. Leaves cartilaginous, lobed and crenate. Stalks cylindrical, white, dilated at the summit into an impervious cup, fringed with acute teeth, tipped with small brown tubercles.

SYN. Lichen fimbriatus. *Linn. Sp. Pl.* 1619. *Ach. Prod.* 187. *With.* v. 4. 37. *Hull* 303. *Lightf.* 570. *Relh.* 469. *Sibth.* 332. *Abbot.* 268.
L. pyxidatus ß. *Huds.* 552.
Lichenoides tubulosum pyxidatum, marginibus serratis. *Dill. in Raii Syn.* 69.
Baeomyces fimbriatus. *Ach. Meth.* 341.
Coralloides scyphiforme gracile, marginibus serratis. *Dill. Musc.* 54. *t.* 14. *f.* 8.

THIS grows on the ground in heathy mountainous places. We have gathered it near Edinburgh, bearing tubercles, which Dillenius says are rarely seen.

[illegible] by Acharius as so near the common *L. pyxi-* [illegible] whether it be more than a va- [illegible] of this

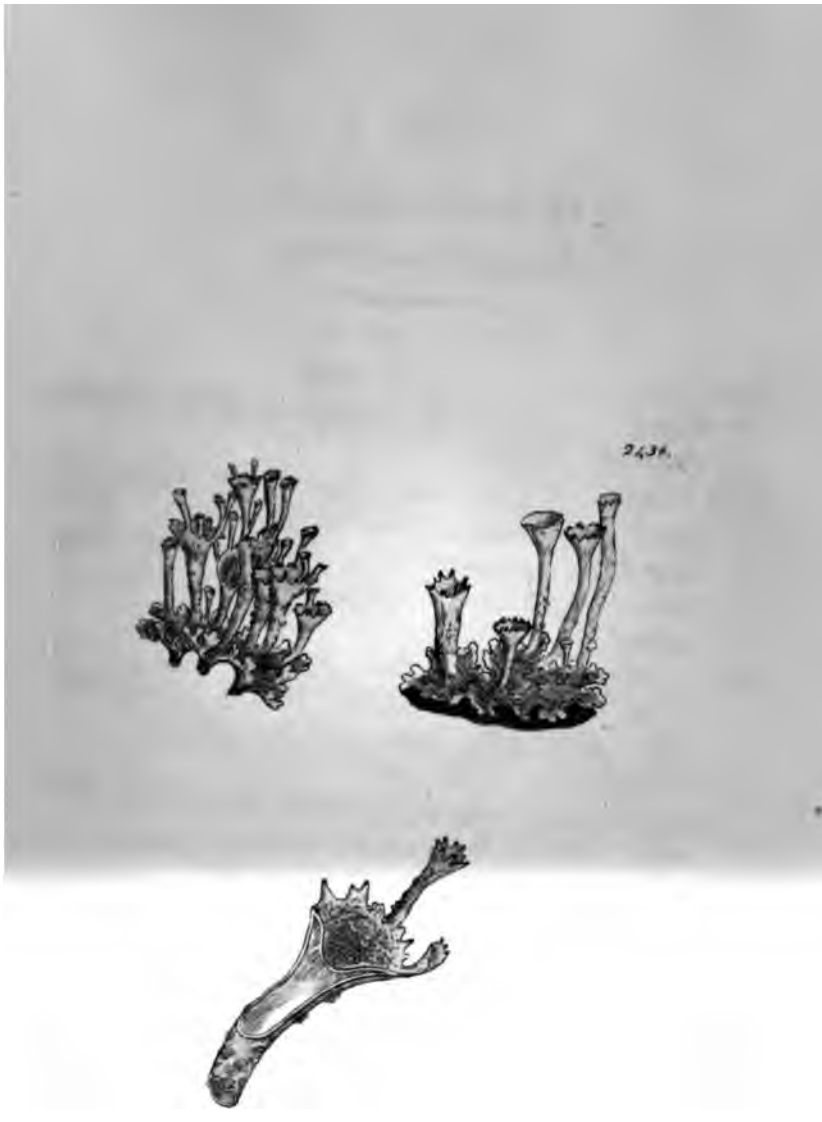


Fig. 1. 2 published by Jas Sowerby London.

LICHEN pyxidatus.

Common Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the [illegible] seeds are imbedded.

SPEC. CHAR. Cup-shaped, leathery, greyish-green, scaly [illegible], often proliferous. Cups dilated, nearly entire [illegible]. Tubercles brown. Leaves minutes, imbricated, cre[illegible] [illegible].

SYN. Lichen pyxidatus. *Linn. Sp. Pl.* 1619. *Achar. Prod.* 186. *Hudson.* 551. α—γ. *With. v.* 4. 36[illegible] *Hull.* 303. *Relh.* 469. *Sibth.* 332. *Abbot.* 268 [illegible] n. 900 and 901.
Lichenoides tubulosum pyxidatum cinereum. *Raii Syn.* [illegible].
Baeomyces pyxidatus. *Achar. Meth.* 337.
Coralloides scyphiforme, tuberculis fuscis. *Dill. Musc.* [illegible] 14. *f.* 6.

THIS most common kind of cup-bearing Lichen is generally called Cup-Moss, under which name it is famous as a cure for the hooping cough. Nothing can be more easily procured [illegible]

Dixon's Micro. Published by Jos. Somerby, London.

79.

LICHEN rubiformis.

Raspberry-fruited Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which seeds are imbedded.

SPEC. CHAR. Fronds depressed, somewhat crustac rounded, lobed, crenate, light green; thick and pale at the margin; white beneath. Tube on the disk, clustered, sessile, minute, glol hollow, red.

SYN. Bæomyces rubiformis. *Ach. Meth.* 324. *t.* 7.

WELL might even the experienced Dr. Acharius he how to dispose of this singular production, which his f Wahlenberg brought him from the north of Norway, a which I received a solitary specimen long ago from my lame correspondent Mr. W. Brunton, who found it near Rip Yorkshire. We can hardly render a more acceptable se to the curious cryptogamist, than to give an accurate f

Pub: 1810 published by J. Sowerby London.

LICHEN cervicornis.

Buck's-horn Cup Lichen.

CRYPTOGAMIA Algæ.

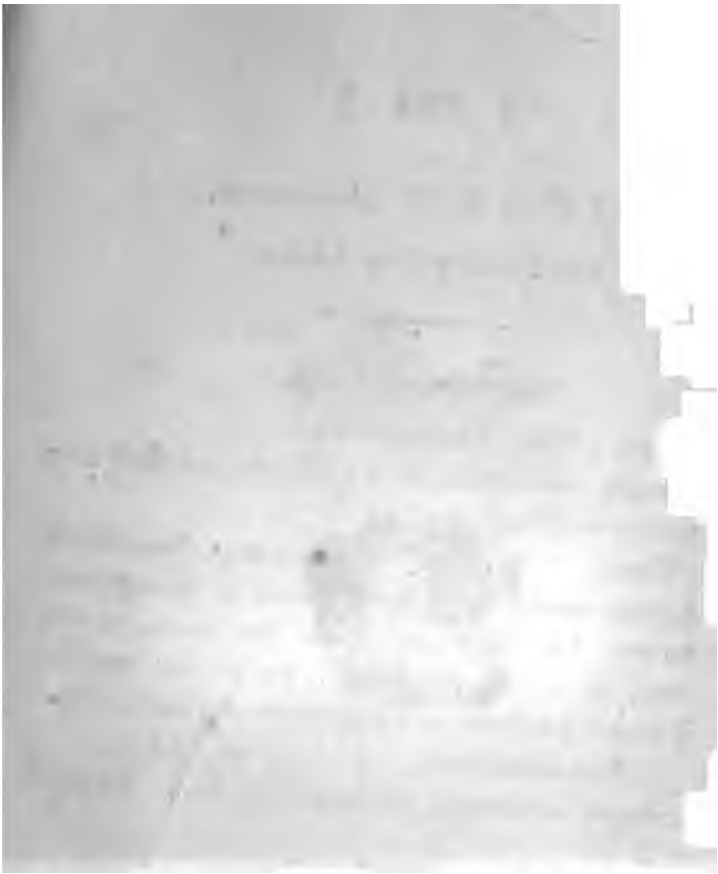
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cup-shaped, cartilaginous, branched. Leaves nearly upright, glaucous, in oblong segments. Cups from the disk of the leaves, turbinate, at length proliferous, on slender stalks. Tubercles numerous, marginal, sessile, blackish.

SYN. Lichen cervicornis. *Achar. Prod.* 184.
Bæomyces cervicornis. *Achar. Meth.* 336. *Winch. v.* 2. 65.

WE gathered fine specimens of this elegant Lichen on the Pentland hills, near Edinburgh, in 1782. The plant was then confounded with the *alcicornis*, *t.* 1392, from which Acharius justly distinguished it. The base is sometimes absolutely shrubby; the whole plant rigid, though the leaves are brittle when dry; the oblong form of their crenate segments, and their glaucous hue, are peculiar, and they very generally assume a brown tinge. The cups grow abundantly, on slender cylindrical stalks, from the disks of the leaves, and are distinctly formed, slightly leafy, more or less proliferous, bordered with numerous, small, sessile, uniform tubercles, of a dark blackish brown.

This species has been observed by Mr. W. Borrer in various mountainous parts of England, Scotland, and Ireland, and we are indebted to him for our specimen here represented, which agrees with some from Acharius.



2574.

Drawn & coloured by Jos. Sowerby London

81.

LICHEN alcicornis.

Elk's-horn Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup-shaped, green, cartilaginous, at length branched, all over leafy. Lower leaves erect, dilated, lobed. Tubercles numerous, terminal, minute, brown.

SYN. Lichen alcicornis. *Achar. Prod.* 184. *Lightf.* 872. *Relh.* 468. *Abbot.* 269.

L. foliaceus. *With. v.* 4. 35. *Hull.* 302.

L. pyxidatus *θ*. *Huds.* 552.

Bæomyces alcicornis. *Achar. Meth.* 349.

Coralloides scyphiforme, foliis alcicorniformibus cartilaginosis. *Dill. Musc.* 87. *t.* 14. *f.* 12.

FOUND frequently on mountainous barren heathy dry places, being in the greatest perfection in the moist weather of

[redacted]

LICHEN Bæomyces.

Pink Mushroom Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, greenish white. Tubercles on footstalks, tumid, lobed, flesh-coloured.

SYN. Lichen Bæomyces. *Linn. Suppl.* 450. *Retz. Scand.* 273. *Sibth. Ox.* 321.
L. ericetorum. *Web. Gott.* 195. α *Lightf. Scot.* 809. *With. Bot. Arr. v.* 3. 167.
L. fungoides. *Swartz. Ind. Occ.* 146. *Gmel. Syst. Nat.* 1357.
Lichenoides fungiforme, crusta leprosa candida, capitulis & pediculis incarnatis. *Raii Syn.* 70.
Coralloides fungiforme carneum, basi leprosa. *Dill. Musc.* 76. *t.* 14. *f.* 1.

THIS very elegant species is much more rare than the two last described. Dr. Smith found it on a mountainous heath in Montgomeryshire, and it is said to grow in Scotland and the north of England. Dillenius says, no one had found this Lichen in England except Dr. Richardson. Mr. Lightfoot was evidently acquainted with it; but whether any other British writer has seen it, or merely copied it from Dillenius, may be doubted. It is certainly distinct enough from the original *ericetorum* of Linnæus, see our *tab.* 372, indeed much more so, as Lightfoot observes, than from the *byssoides*, *t.* 373. The crusts of all these are nearly alike; green or greyish when young, and in moist weather; white when old and dry. Their surface granulated and tuberculated, not powdery. But the beautiful pink-coloured fructification of *L. Bæomyces* clearly distinguishes it, being so different in hue from that of the *byssoides*, and also much larger, more lobed, and variously formed. The colour of its tubercles is similar to the flat shields of the *ericetorum*, but more vivid, of a wax-like hue, not scarlet as in *L. cocciferus*. These tubercles are spongy within. Their stalks whitish, compressed and furrowed, so that they might easily be taken for a little species of *Helvella*, were it not for the crust out of which they grow, their firm and durable texture, and want of a fungous smell.

LICHEN lycoides.

Perennis Musiformis Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.

Female, smooth tubercles or tubercles, in which the seeds are imbedded.

Spec. Char. Crust leprous, granulated, greenish white. Tubercles on the stalks, nearly globular, reddish brown.

Syn. Lichen lycoides. *Linn. Mant.* 133. *Lightf. Scot.* 908. *Hudson F. Ang.* 587. *With. Bot. Arr.* v. 3, 65. *Raii Cant. Suppl.* 1. 22.

L. ericæ. *Hudson F. Ang.* 587. *With. Bot. Arr.* v. 3. 71. *Raii Synopsis* 274.

L. fungiformis. *Web. Gott.* 196. *Sibth. Ox.* 322.

Lichenoides fungiforme terrestre, capitulis fuscis. *Raii syn.* 70.

Coralloides fungiforme saxatile, pallide fuscum. *Dill. Musc.* 78. *t.* 14. *f.* 4.

β fungi parvi globosi, ex ungue equino putrescente orti. *Raii Syn.* 13. *t.* 1. *f.* 4.

Coralloides fungiforme ex ungula equina livide rubescens. *Dill. Musc.* 78. *t.* 14. *f.* 5.

THE first is much like that of the preceding, thinner when it grows on stones than when on the ground, which last is its most general situation. Our specimens came from Epping forest, Jersey wood, and a moor near Glasgow. The tuber-

LICHEN paschalis.

Crisp Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, clothed with minute crustaceous leaves. Tubercles terminal, prominent.

SYN. Lichen paschalis. *Linn. Sp. Pl.* 1621. *Huds. F. An.* 558. *Wulf. Bot. Arr. v.* 3. 216.

Lichenoides non tubulosum cinereum ramosum, totum crustaceum. *Raii Syn.* 66.

Coralloides crispum & botryforme Alpinum. *Dill. Musc.* 114. *t.* 17. *f.* 33.

THIS rare and elegant Lichen grows on the highest mountains of Wales, Westmoreland, and Scotland, chiefly on micaceous rocks. Dr. Smith in his Tour, *vol.* 2, 113, has shown

Oct 1793 R.W. delin. & sc. Published by Longman & Rees London

LICHEN confinis.

Sea-weed Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Shrubby, solid, erect, tufted, branched, olive-black; branches nearly cylindrical, swelling upwards, pitted at the top.

Syn. Lichen confinis. *Achar. Prod.* 208. *Fl. Dan. t.* 879. *f.* 2.
Stereocaulon? confine. *Achar. Meth.* 317.
Fucus pygmæus β. *Turn. Hist. Fucor. v.* 4. 17.

SIR THOMAS GAGE, Bart., to whom we are obliged for this remarkable plant, informs us he first received it from Miss Hutchins, but afterwards gathered the same on the inundated rocks of the Kenmare river, Ireland.

It is one of those ambiguous cryptogamic productions whose

2575.

Drawn and published by J. Sowerby, London.

86.

LICHEN fuscellus.

Little Grey Wart Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thick, smooth, cracked, grey; black within. Tubercles minute, flat, not prominent, black.

SYN. Lichen fuscellus. *Turn. Tr. of Linn. Soc. v.* 7. 90. *t.* 8. *f.* 2.

SENT by Mr. James Turner from Gorlestone church, where it was originally discovered by his brother, whose description may be found in the 7th volume of the Linnean Society's Transactions.

The crust is irregular and indeterminate, a line or more in thickness, growing on calcareous stones, to whose inequalities it conforms, but is otherwise level and smooth, of a pale

1800

Sylv. Mus. Published by Jos. Sowerby, London

87.

LICHEN Smaragdulus.
Little Emerald Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles in which the seeds are imbedded.

SPEC. CHAR. Frond simple, depressed, cartilaginous, peltate, roundish, smooth, greenish-yellow, with one root. Tubercles in immersed brown dots.

SYN. Endocarpon smaragdulum. *Ach. Meth. Suppl.* 29.

LONG ago sent us from the county of Durham by our worthy friend the Rev. Mr. Harriman, from whom we learn that having sent it to Professor Acharius, he has lately been informed of the above synonym, and that Mr. Wahlenberg had found the same in Norway.

This minute plant is of that tribe of Lichens called by recent botanists *Endocarpon*, which probably will be established in future as a genus. We have described one of the family *v.* 9. *t.* 595, which is now *Endocarpon Hedwigii* of Acharius. The present is very distinct, being even more minute than that, closely pressed to the exposed sand-stone on which it grows, and fixed by a central root. The frond is cartilaginous, roundish, sometimes obscurely crenate, smooth, of a yellowish green, occupied by numerous little brown dots, each of which contains an immersed concave tubercle or shield.

Sowerby Published by Jos Sowerby London

LICHEN sinopicus.

Sinoper Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rounded, tumid, smooth, tessellated, of a rusty red. Shields minute, sunk, black, depressed in the centre, with an imperfect crenate border of the substance of the crust.

SYN. Endocarpon sinopicum. *Ach. Meth. Suppl.* 30.

FOR this new Lichen we are obliged to Mr. Turner. That gentleman received it from the Rev. Hugh Davies, by whom it was gathered in Anglesea, growing on a piece of yellowish hone schist.

Though small, it is a conspicuous as well as elegant species, forming little rounded tumid smooth patches, a line or more

1776

Jos. Sellers, Published by Jas. Sowerby London.

89.

LICHEN tephroides.

Ash-coloured Dot Lichen.

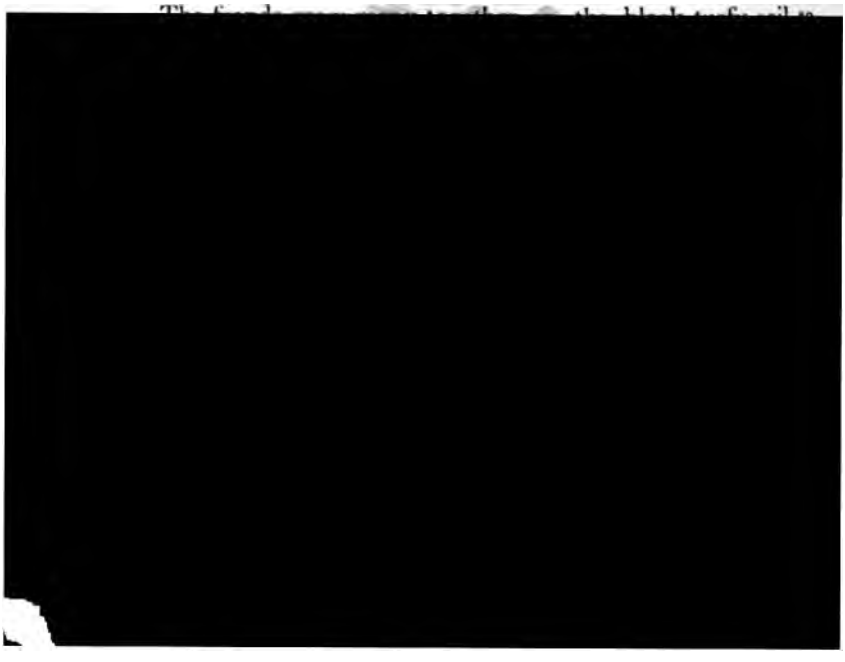
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond crustaceous, depressed, glaucous-ashcoloured, smooth; the circumference wavy and somewhat lobed. Tubercles in immersed coal-black dots, with prominent margins.

SYN. Lichen tephroides. *Ach. Prod.* 18.
Endocarpon tephroides. *Ach. Meth.* 129.

ONE of the new acquisitions of our friends Messrs Borrer and Hooker in their Scottish tour of last summer. It was found on the ground at Burgh Head, in the island of Stronsa, one of the Orkneys.



2013

Rees sing Published by J. Sowerby London.

90.

LICHEN trapeziformis.

Quadrangular Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Frond ſimple, flat, bluntly angular, thickiſh, ſmooth, of a dull glaucous green, with many roots. Tubercles in immerſed black dots.

SYN. Lichen trapeziformis. *Dickſ. Crypt. faſc.* 2. 22. *With. ed.* 2. *v.* 3. 201. *Hull. Brit. Fl.* 296.

L. Endocarpon. *With. v.* 4. 52.

FOUND by Mr. Dickſon on barren heaths near Croydon, and by Mr. D. Turner in Norfolk. It is ſcarcely diſcernible but in wet weather.

The frond is hardly ſo broad as a ſhield of the common L. Agrioticus, and grows attached by numerous long down-

LICHEN lachneus.

Woolly-rooted Angular Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, minute shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Fronds simple, crowded and somewhat imbricated, inclining, rounded, waved and lobed; olive green and smooth above; black and spongy beneath. Tubercles in immersed black dots.

SYN. Lichen lachneus. *Ach. Prod.* 140.

Endocarpon lachneum. *Ach. Meth.* 127.

GROWS on the Sussex downs, as well as on the rocks at Chester and Bristol hot-wells, according to Mr. W. Jones, from whom we received specimens which agree with what Dr. Acharius has sent. I gathered this species plentifully at Bristol in 1798, but was not satisfied of its being di-

[redacted]

1698

Jas. Sowerby, Published by Jas. Sowerby, London.

Marshall Publishd by Ja Lisonsby London.

LICHEN pallidus.

Pale-leaved Dot Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond leafy, somewhat imbricated, lobed, notched, pale greenish grey; slightly spongy and black beneath; the outermost lobes naked and pale on the under side. Tubercles immersed, black.

SYN. Endocarpon pallidum. *Ach. Lichenogr. Univ.* *v.* 1. 301.

BROUGHT from Ireland by Sir Thomas Gage, Bart. It grows on rocks covered with a thin coat of earth, and composes rather broad, irregular, but not much interrupted, patches of small leafy leathery fronds, whose round, crenate, wavy lobes lie over each other, spreading gradually from the centre. Their under side is at first smooth and whitish, but the black spongy substance, by which the middle of the plant is attached underneath, gradually spreads, though Dr. Acharius observes it to be free from fibrous radicles. That author appears to have been but imperfectly acquainted with the tubercles. We find them black, nearly globular, though a little depressed at the top, which is nearly on a level with the surface of the frond into whose substance they are sunk. The colour of the frond itself is a light greenish grey, prone to assume a tawny hue, like other neighbouring species.

2541.

94

LICHEN leptophyllus.

Small-leaved Dot Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond leafy, small, somewhat cartilaginous, peltate, blackish brown, smooth on both sides, often black beneath; the circumference rounded, lobed and wavy. Tubercles in minute immersed dots.

SYN. Lichen leptophyllus. *Ach. Prod.* 141.

Endocarpon leptophyllum. *Ach. Meth.* 127.

GATHERED by Mr. Hooker and Mr. Borrer on the hill of Kinnoul near Perth, a famous spot for beautiful agate pebbles. The smaller and blacker specimens, *f.* 2, grew on rocks by the shore of Loch Lomond.

2012

1

2

1

Marshall's Published by J. Sowerby, London.

95.

LICHEN miniatus.

Grey cloudy Lichen.

CRYPTOGAMIA Algæ.

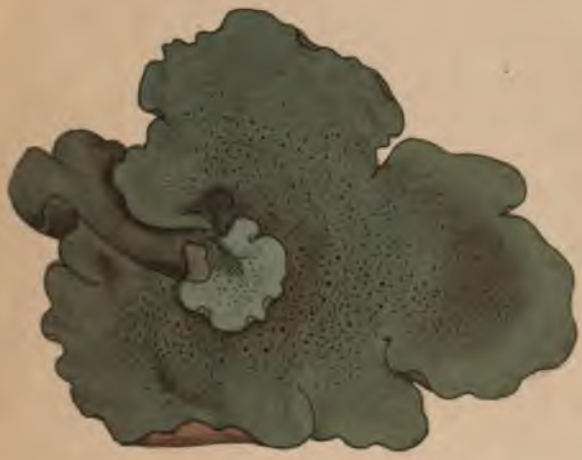
GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

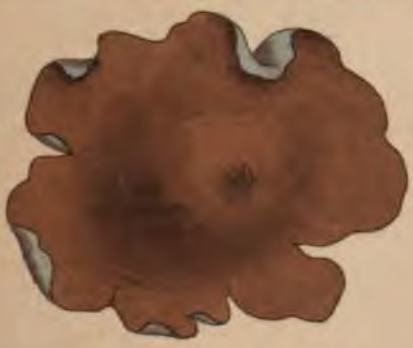
SPEC. CHAR. Umbilicated, lobed, bulging, ſmooth on both ſides, tawny beneath. Tubercles in numerous minute immerſed dots.

SYN. Lichen miniatus. *Linn. Sp. Pl.* 1617. *Hudſ.* 549. *With. v.* 4. 66.
Lichenoides coriaceum nebuloſum cinereum punctatum, ſubtus fulvum. *Dill. Muſc.* 223. *t.* 30. *f.* 127. B. compared at Oxford.
β Lichen amphibius. *With. v.* 4. 66.

COMMUNICATED by ſeveral of our friends from the North. It grows on ſhady, generally perpendicular, rocks, in the highlands and lowlands of Scotland, and in all the mountainous counties of England. It is plentiful under hanging rocks above Saxton's bath, Matlock, and found at all ſeaſons.

Its general form is umbilicated, or fixed by a ſtrong central





Mr. Cogbill Drawn by J. Sowerby Junr.

96.

LICHEN aquaticus.

Cluſtered water Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Obſoletely umbilicated, aggregate, lobed, creeping, ſmooth on both ſides, greeniſh above. Tubercles in immerſed dots.

SYN. Lichen aquaticus (by error of the preſs fluviatilis). *With. v.* 4. 67. *Weis Crypt.* 77.

L. fluviatilis. *Web. Gott.* 265. *t.* 4.

Platiſma aquaticum. *Hoffm. Pl. Lich. t.* 45.

GATHERED in the bed of an alpine river at Hafod, Cardiganſhire. It grows on large ſtones, or on ſmall pebbles under water, in very large patches, conſiſting of numerous cluſtered leaves, which even at firſt are hardly to be called umbilicated, though about as much ſo as in L. *polyphyllus* of Linnæus. Theſe leaves or fronds are roundly lobed, tumid, ſmooth on both ſides, veinleſs, olive-green above, at leaſt when moiſt,

May 1, 1796, Published by J. Sowerby, London.

March 1. 1804. Published by Jos. Sowerby

98.

GYROPHORA deusta.

Burnt Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles* sessile on a peltate frond, black, with a plaited contorted disk, in whose clefts the *seeds* are lodged.

SPEC. CHAR. Frond membranous, roundly lobed, brown; upper side more or less granulated; under cellular and reticulated, smooth and naked. Tubercles with circular plaits, at length convex.

SYN. Gyrophora deusta. *Ach. Meth.* 102.

Lichen deustus. *Linn. Sp. Pl.* 1618. *Fl. Suec.* 419. *Ach. Prod.* 145. *With.* 63?

L. flocculosus. *Wulf. in Jacq. Coll. v.* 3. 98. *t.* 1. *f.* 3.

L. pustulati varietas singularis. *Linn. Fl. Suec.* 420. *It. W. Goth.* 217!

Umbilicaria flocculosa. *Hoffm. Pl. Lich. t.* 68. *f.* 1—4.

FOUND on rocks in the Highlands of Scotland, many years ago, by Mr. Dickson. Our specimen was gathered on Ben Cruachan by Mr. W. Borrer; that in fructification came from Dr. Swartz. The plant is very common in Sweden, and appears, by an authentic specimen, to be what Linnæus intended. When it grows on perpendicular moist rocks, it most frequently becomes covered on the upper side with minute scales or leaflets, as Linnæus found it in West Gothland; but these are only dilatations of the granulations which it usually bears. The under surface is naked and smooth, but not even, being more or less distinctly marked with veiny reticulations, with pits between. Both sides are of a lurid blackish brown, somewhat rusty, but not olive. The frond is often a little compound; its circumference roundly lobed or crenate. Tubercles quite sessile, very black and opaque, a little convex, with several convolutions of the disk, partly concentric, partly folded, but there is usually a regular circular outline, or rim.

E. engraved by J. Lowry Cooke

99.

GYROPHORA erosa.

Corroded Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles* sessile on a peltate frond, black, with a plaited contorted disk, in whose clefts the *seeds* are lodged.

SPEC. CHAR. Frond membranous, rugged, blueish-black; its circumference perforated, reticulated and jagged; under side brownish-grey, somewhat granulated and fibrous. Tubercles rather convex.

SYN. Gyrophora erosa. *Ach. Meth.* 103.
Lichen erosus. *Ach. Prod.* 145. *Weber. Goett.* 259.
L. corrosus. *Ehrh. Crypt.* 306.
L. torrefactus. *Lightf.* 862. *With. v.* 4. 62. *Hull.* 301. *Winch. Guide. v.* 2. 43.
L. polyrrhizos. *Huds.* 550.
Lichenoides rugosum durum pullum, peltis atris verrucosis. *Dill. Musc.* 220. *t.* 30. *f.* 118.
Umbilicaria erosa. *Hoffm. Pl. Lich. v.* 3. *t.* 70.

FREQUENT on the highest granite hills of Wales and Scotland, as well as in the mountainous parts of Durham and Yorkshire. Accompanying the vitrified forts in the Highlands, it looks as if it had, like them, undergone the action of fire, which seems to have suggested Lightfoot's specific

2068

Eq. 1809 published by J. Sowerby London.

LICHEN pustulatus.

Blistered Lichen.

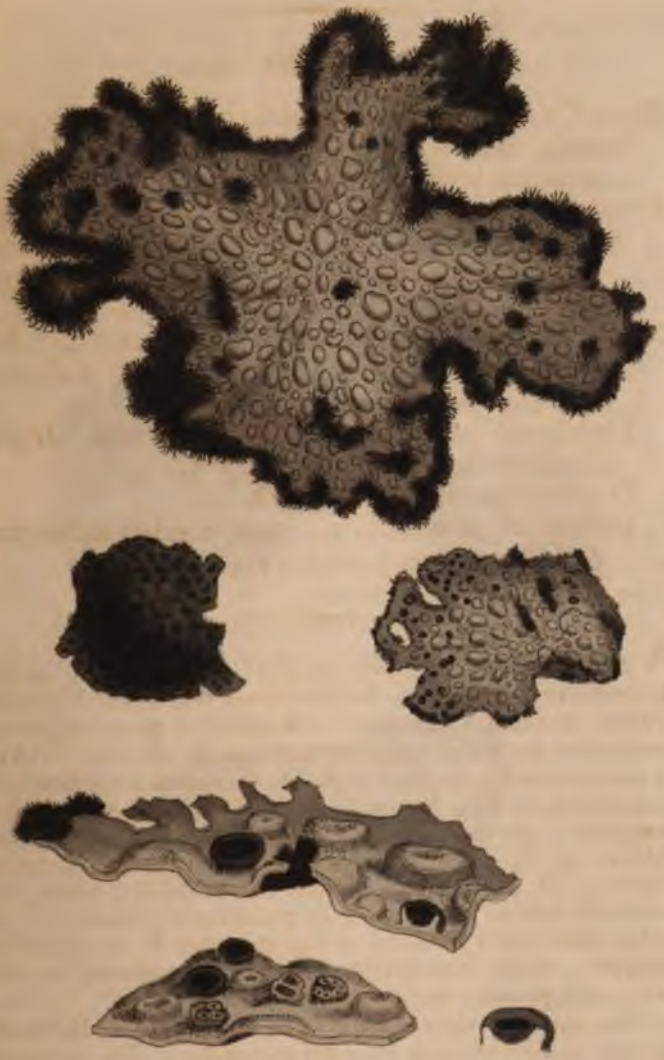
CRYPTOGAMIA Algæ.

GEN. CHAR. Male scattered warts.
Female small shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Umbilicated, membranous, lobed, blistered and wavy, greenish ash-coloured; beneath dark-olive, deeply pitted. Shields flat, at length pitted.

SYN. Lichen pustulatus. *Linn. Sp. Pl.* 1617. *Ach. Prod.* 146. *Hedw.* 549. *With. v.* 4. 64. *Hull.* 302. *Lightf.* 858. *Eurh. Crypt.* 79.
Umbilicaria pustulata. *Schrad. Spicil.* 102. *Hoffm. Pl. Lich. t.* 28. *f.* 1, 2. *t.* 29. *f.* 4.
Lecidea pustulata. *Ach. Meth.* 85.
Lichenoides pustulatum cinereum et veluti ambustum. *Dill. Musc.* 226. *t.* 30. *f.* 131.

VARIOUS of our often-mentioned friends have sent us this



March 1. 1804. Published by J. J. Sowerby, London.

GYROPHORA proboscidea.

Proboscis Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles* sessile, on a peltate frond, black, with a plaited contorted disk, in whose clefts the *seeds* are lodged.

SPEC. CHAR. Frond membranous, notched; upper side rugose, with elevated reticulations, of a smoky ash-colour; under smooth, naked and paler. Tubercles top-shaped, prominent; their disk at length rather convex, variously plaited.

SYN. Gyrophora proboscidea. *Ach. Meth.* 105.
Lichen proboscideus. *Ach. Prod.* 147.
L. mesenteriformis. *Ehrh. Crypt.* 89.
L. decussatus. *Villars. Dauph. v.* 3. 964. *t.* 55.
L. deustus. *Lightf.* 861.
Umbilicaria corrugata. *Hoffm. Pl. Lich. t.* 43. *f.* 4—7.

NOT rare on the granite rocks of the Highlands, nor in the north of England and Wales, generally accompanying our *t.* 522, which is *G. cylindrica* of Acharius. We can however assure those who are interested in the matter, that the real *Lichen proboscideus* of Linnæus, so fully described in Sp. Pl. ed. 1. 1150, is, beyond all doubt, a specimen of our *t.* 522, as nearly destitute of fringe or hairs as the plant in our present plate. We assent nevertheless to the *cylindricus* of Linnæus, Sp. Pl. ed. 1. 1144, (to which Montin applied a most erroneous synonym of Dillenius,) being also our *t.* 522. Linnæus has justly noted in his own copy of Sp. Pl. that the Lichens in question are one and the same species. The present indeed is more corrugated in its upper surface, the other more furnished with warty pustules, as well as incomparably more fringed. The tubercles vary in degree of elevation, and the names of *proboscideus* and *cylindricus* are nearly equally unsuitable to the general form of both, though well answering to the Linnæan specimen. We publish these remarks, and the annexed plate, for the sake of illustration, as so many botanists have separated these plants, which appear to us varieties only, and for both which we would retain the name of *Gyrophora proboscidea.* See Winch, v. 2. 43.

Engraved & Published by J. & E. Lowry, London.

GYROPHORA arctica.

Arctic Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles* sessile, on a peltate frond, black, with a pitted contorted disk, in whose clefts the *seeds* are lodged.

SPEC. CHAR. Frond coriaceous, rigid, thick, wavy and lobed: upper side with tortuous plaits and elevated points, ash-coloured: under very smooth, paler. Tubercles at length globose, copiously pitted.

SYN. Gyrophora arctica. *Ach. Meth.* 106. *t.* 2. *f.* 6.

THIS is here admitted as a British species, on the authority of a specimen, the uppermost in our plate, obtained by Mr. Turner from the herbarium of the late Mr. Hudson, who probably collected it in Devonshire. The other was sent by Dr. Wahlenberg from Norway, and leaves no doubt as to the identity of the species, though its under side displays none of that yellowish-white hue mentioned by Acharius.

Drawn & published by

LICHEN proboscideus.

Fringed Barton Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Umbilicated, lobed, fringed. Tubercles on margins, their disk marked with concentric lines.

SYN. Lichen proboscideus. *Linn. Sp. Pl.* 1617. *Fl. Lapp.* [illegible] 255 *. *Hudson.* 551. *With.* v. 4. 65.

Lichen [illegible]. *Lightf.* 856.

Umbilicaria [illegible]. *Hoffm. Pl. Lich.* t. 44.

Lichenoides corneum, marginibus eleganter fimbriatis. *Dill. Muscorum.* 218. t. 29. f. 116.

ON quartz or granite rocks in alpine countries. We have received specimens from several of our correspondents in Scotland, Wales, and the north of England.

This is one of that singular tribe of Lichens called umbilicati, because they grow attached by a central strong root, and are consequently much depressed in the middle of their upper surface. This species is more lobed and expanded than some others; its colour is a greenish grey when wet, its surface slightly [illegible]

[redacted]

LICHEN pellitus.

Fleecy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Peltate, leafy, lobed, smooth, of a greenish copper-brown; beneath coal-black, and clothed with branching intricate hairs. Tubercles black, convex, plaited, intricate.

SYN. Lichen pellitus. *Acher. Prod.* 149.

L. velleus. *Hudj.* 550.

L. polymorphus. *Lightf.* 864. *With.* v. 4. 64. *Hull.* 302.

Lichenoides pallum superne et glabrum, inferne nigrum et carbosum. *Dill. Musc.* 226. *t.* 30. *f.* 130.

THE singular tribe of umbilicate or peltate-fronded Lichens is almost entirely alpine, growing on exposed rocks, each plant fixed by a very strong central root or roots, the circumference being loose, and in dry weather often curled inwards. We

Pl. 1. where published by M. Simon London.

GYROPHORA murina.

Mouse-skin Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles* sessile, on a peltate frond, black, with a plaited contorted disk, in whose clefts the *seeds* are lodged.

SPEC. CHAR. Frond membranous; its margin plaited, wavy and somewhat lobed; minutely granulated on both sides; glaucous grey above; blackish brown beneath. Tubercles scattered, somewhat bordered, much convoluted.

SYN. Gyrophora murina. *Ach. Meth.* 110.
Lichen murinus. *Ach. Prod.* 143.
L. griseus. *Ach. in Act. Holm. ann.* 1794. 91. *t.* 2. *f.* 3.
L. pulmonarius saxatilis, cinereo-fuscus, minimus. *Vaill. Paris.* 116. *t.* 21. *f.* 14. *Sm. Tour, ed.* 2. *v.* 1. 108.

COMMUNICATED by Mr. Turner, but the specimens are exotic. We know not the precise place of growth of this species in Britain, though we have it from Sweden, Switzerland and France. It may be what Dare found on St. Vincent's rocks, and if so, it is *L. Dillenii, With. v.* 4. 63; which we are the more inclined to believe, as Mr. Turner, in Tr. of L. Soc. v. 7. 112, asserts it to be *t.* 30. *f.* 117, of Dillenius. We indeed, on consulting the herbarium at Oxford, found his *f.* 117, to be *polyrrhizos* of the Linnæan herbarium, *Gyrophora hirsuta* of Acharius, and the true *Lichen spadochrous* of Ehrhart; nor can we account for the assertion of our learned friend, but by supposing, as Dillenius certainly confounded the two, they may both be placed together in his collection.

G. murina is a very distinct species, from one to two inches broad; black, without fibres, beneath, finely granulated with pale cartilaginous warts, like shagreen; browner towards the edge. The upper side is grey, very minutely cracked, without veins or plaits; white and mealy in the middle. Tubercles rare, minute, seldom perfectly plaited, though Acharius did ascertain them to be so. We have some from Switzerland, in the state which led him to refer the plant to *Endocarpon*.

2486.

Me

LICHEN granulatus.

Granulated Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are included.

SPEC. CHAR. Leaves gelatinous, fleshy, granulated on both sides, of a blackish olive colour; its lobes crowded, rounded, plaited, crisped and cut. Shields scattered, dark brown.

SYN. Lichen granulatus. *Hals.* 596. *With.* v. 4. 73. *Hull.* 101. *Reft.* 462. *Sibth.* 327.
L. furvus. *Act. Prod.* 132.
Lichenoides gelatinosum atro-virens, auriculatum et granosum. *Dill. Musc.* 140. *t.* 19. *f.* 24.
Parmelia furva. *Ach. Meth.* 230.

DILLENIUS found this on gravel walks at Oxford, but never saw the shields, which are very rare. Mr. W. Borrer has sent us specimens from Sussex in fructification, which

Jesse Lilley. Published by Jas. Sowerby, London.

LICHEN fragrans.

Fragrant Gelatinous Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are immersed.

SPEC. CHAR. Gelatinous, fleshy, olive-black; its lobes ascending, crowded, rounded, thick-edged, crenate, smooth. Shields scattered, dull tawny, with a thick olive border.

GATHERED on the trunks of elms and ashes in Kent, Surrey and Sussex, by Mr. W. Borrer, who sent it to us as a new species, and we believe justly. We can refer it to none of the specimens or descriptions of Acharius or Bernhardi. If we err in so difficult a tribe, we must trust to the forgiveness of these authors and of our readers.

The fronds form small tufts, at first sight not unlike *L. fascicularis*, t. 1182, in aspect and colour, but very different when examined. They spread horizontally, but their lobes, which are small, rounded, crenate, thickened at the edge,

1972

Baily & Nott, Published by Mr. Sowerby, London.

108.

LICHEN crispus.

Crisped gelatinous Lichen.

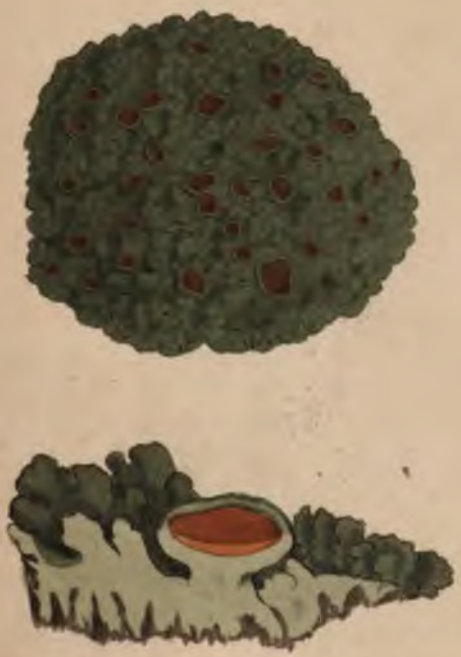
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, olive-green, imbricated, orbicular, lobed and notched, with crisped and granulated leaves in the centre. Shields flat, red-brown, scattered.

SYN. Lichen crispus, *Linn. Syst. Nat. ed.* 12. *v.* 2. 710. *Hudf.* 535. *With. v.* 4. 76. *Hull.* 301. *Relh.* 427. *Sibth.* 327. *Achar. Prod.* 126.
Lichenoides gelatinosum atrovirens, crispum et rugosum. *Dill. Musc.* 139. *t.* 19. *f.* 23.

OF all the various and intricate tribe of Lichens, the gelatinous species are the most difficult of determination. They all nearly agree in their greenish olive hue, turning almost black when dry, in which state indeed they all for the most part shrivel up into an undistinguishable mass. When moist



Lond. 1. May. Published by J. Sowerby, London.

109.

LICHEN cretaceus.

Chalk Lichen.

CRYPTOGAMIA Algæ.

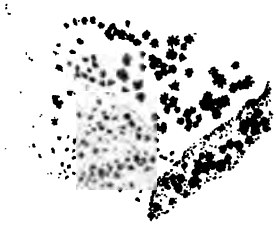
GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt lobed, ſtellated, dark-olive. Shield central, ſolitary, elevated, brownifh-fleſh-coloured, with a paler elevated entire border.

WE believe this curious little Lichen to have hitherto remained undeſcribed. Though very common on chalk, as well as on the white coating of flint ſtones, over which it is ſcattered in

[redacted]

7.38.



LICHEN marginalis.

Marginal Gelatinous Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, imbricated, olive-black; its lobes linear, parallel, zigzag, channelled, crisped, crenate, branched, smooth. Shields marginal, dark reddish brown, with an entire border.

SYN. Lichen marginalis. *Huds.* 534. *Ach. Prod.* 127. *Wulf.* n. 4. 54. *Hull.* 385.
Lichenoides gelatinosum fuscum, jacobææ maritimæ folioso. *Dill. Musc.* 140. *t.* 19 *f.* 25.
Parmelia marina *β.* *Ach. Meth.* 241.

WE have this from Mr. Hudson's herbarium, with his authentic name, as well as from Derbyshire and the Highlands of Scotland. The specimen in our plate was gathered on some walls near Settle, Yorkshire. It grows in broad patches on calcareous stones, in rather moist places, often accom-

1924

Sowerby del. Published by Jas. Sowerby, London.

LICHEN sinuatus.

Sinuated Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, pellucid, somewhat gelatinous. Leaves roundish, sinuated, crenate, glaucous-green, smooth on both sides. Shields concave, brownish, with an elevated smooth border.

SYN. Lichen sinuatus. *Hudf.* 535. *With.* v. 4. 75. *Hall.* 301.

Lichenoides tenue crispum, foliis parvis depressis. *Dill. Musc.* 145. *t.* 19. *f.* 33.

HEREFORDSHIRE, Devonshire and Wales are the only parts of this island in which Mr. Hudson's *Lichen sinuatus* is known to have been found, so that Mr. D. Turner's having discovered it on the ruinous walls of Burgh castle, near Yarmouth, is no small triumph for our Norfolk Flora. It occupies the interstices of rocks or stones in shady places, and being very small, is not easily detected, except in wet weather, when it assumes a bright sea-green tinge. It grows in little dense tufts,

COLLEMA tenax.

Tenacious Collema.

CHARACTER *Ger.*

Gen. Char. *Shield* orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

Spec. Char. *Frond* rather glaucous, fleshy, imbricated, lobes obtuse, somewhat palmate. Shields depressed, dilated, reddish.

Syn. Lichen tenax. *Swartz. Act. Nov. Upsal. v.* 4. 143. *Act. Friedr.* 125. *Act. Nov. Holm. v.* 16. 9. *t.* 1. *f.* 1. *Berck. in Schrad. Journ. for* 1799. *fasc.* 1. 14. *t.* 2. *f.* 3.

Parmelia tenax. *Ach. Meth.* 231.

SENT from North Wales by the Rev. Hugh Davies. It grows in alpine moist situations, amongst mosses, to which

2149.

113.

[2348]

COLLEMA plicatile.

Plaited Collema.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Shields* orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

SPEC. CHAR. Frond somewhat fleshy, imbricated; lobes plaited, rounded. Shields reddish brown, concave, crowded.

SYN. Lichen plicatilis. *Ach. Prodr.* 129. *Act. Nov. Holm. v.* 16. 11. *t.* 1. *f.* 2. *Bernh. in Schrad. Journ. for* 1799. *fasc.* 1. 13.

Parmelia plicatilis. *Ach. Meth.* 240.

FOR this we are indebted to Mr. Griffith, who sent it from North Wales; and we have also fine specimens named by Dr. Acharius.

Wet or inundated rocks, in alpine situations, produce the

2368.

Plate published by J. Sowerby London

COLLEMA multipartitum.

Many-branched Collema.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Shields* orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

SPEC. CHAR. Frond radiating, fleshy; segments repeatedly forked, fan-shaped, crenate; convex above; concave beneath. Shields prominent, at length blackish and flat.

COMMUNICATED by Sir Thomas Gage from Killarney, in Ireland, where it abounds on walls and rocks.

The fronds are fleshy, but not so very gelatinous as those of some other species, of a dull blackish olive, radiating from a centre, which they soon leave bare; sometimes becoming dispersed in small broken fragments, which lose their concentric

2582

Jones published by J. & J. Sowerby London

[2039]

LICHEN fluviatilis.

River Gelatinous Lichen.

CRYPTOGAMIA Alge.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, thick, imbricated, greenish-black: its segments obovate or linear, convex, proliferous, channelled beneath. Shields globose, concave, brown.

SYN. Lichen fluviatilis. *Huds.* 536. *With.* v. 4. 77. *Hull.* 301.

Lichenoides gelatinosum, foliis angustioribus tuniformibus. *Dill. Musc.* 142. *t.* 19. *f.* 28.

L. gelatinosum opuntioides. *Dill. in Raii Syn.* 72.

Parmelia? fluviatilis. *Ach. Meth.* 249.

MALHAM-COVE in Yorkshire afforded this rare plant to

[redacted]

2039.

Fairy wren published by Jas. Ridgway London.

116.

LICHEN fascicularis.

Clustered Gelatinous Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.

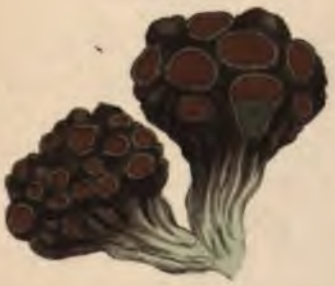
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Clustered, gelatinous. Leaves dilated upwards, plaited, lobed and crenate. Shields marginal, shortly stalked, clustered, turbinated, reddish.

Syn. Lichen fascicularis. *Linn. Mant.* 133. *Achar. Prod.* 129. *Hudf.* 536. *With. v.* 4. 76. *Hull.* 301. *Relh.* 463.

Lichenoides gelatinosum palmatum, tuberculis conglomeratis. *Dill. Musc.* 141. *t.* 19. *f.* 27.

COMMUNICATED by Mr. Oliver and Mr. Harriman from Durham. We have gathered it on mossy trees about Ambleside, Westmoreland. It has been noticed by but few botanists, being dried up and shrunk to nothing in dry weather, so as to have no appearance of a vegetating substance; but during rain it becomes plump and conspicuous. It belongs to the obscure tribe of gelatinous Lichens, the *Collemata*



117.

LICHEN palmatus.

Palmate Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond gelatinous, imbricated, tufted, greenish-brown; its segments thin, linear, many-lobed, somewhat palmate, revolute. Shields scattered, reddish.

SYN. Lichen palmatus. *Huds.* 536. *Ach. Prod.* 135. *With. v.* 4. 74. *Hull.* 301.

Lichenoides pellucidum fuscum corniculatum. *Dill. Musc.* 143. *t.* 19. *f.* 30.

L. gelatinosum tenerius laciniatum, ex fusco purpurascens. *Raii Syn.* 72.

WE see no reason to doubt this being the *L. palmatus* of Hudson, notwithstanding the suppositions to the contrary in

1635

Published by Longman, Hurst, Rees, Orme & Brown, London.

LICHEN tenuissimus.

Fine-cut gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, gelatinous, greenish black. Leaves much divided, into linear unequal somewhat fringed segments. Shields sessile, reddish brown, with a thick entire border.

SYN. Lichen tenuissimus. *Dicks. Crypt. fasc.* 1. 12. *t.* 2. *f.* 8. *Achar. Prod.* 139. *With. v.* 4. 61. *Hull.* 298.

Parmelia tenuissima. *Achar. Meth.* 244.

WHEN Mr. Dickson first paid a visit to Norwich in the year 1782, this was one of the new cryptogamic plants then first made known to him by its discoverer Mr. Crowe. Twenty

Hooker's Icon. Published by Sir J. Smith, &c.

COLLEMA Schraderi.

Schraderian Collema.

CRYPTOGAMIA Algæ.

Gen. Char. *Shields* orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

Spec. Char. Found somewhat fleshy, tufted, erect, branched in a forked manner, rugose. Shields lateral, reddish, with a pale border.

Syn. Collema Schraderi. *Sm. Fl. Brit. v. 4, ined.*

Lichen Schraderi. *Bernh. in Schrad. Journ. for 1799, fasc. 1. 22. t. 2. f. 5.*

Parmelia Schraderi. *Ach. Meth. 243.*

OUR specimens marked 1 were gathered during a visit to Matlock bath in June 1783, on a low stone wall next to a wood, half way betwixt the two principal inns. No British botanist has observed the same, and they have remained undescribed hitherto; but we find them exactly accord with what Dr. Schrader has sent us under the above name. They compose little tufts, mixed with moss, among the crumbling mortar and limestone, and grow erect, repeatedly branched, forked and level-topped. They are of a dull and darkish olive green; paler below; compressed and shrivelled when dry; gelatinous and somewhat fleshy when wet. Such is the indubitable *C. Schraderi*, on which no fructification has yet been found.—Fig. 2 represents a plant found by Mr. Turner on Caistor church, Norfolk, also on heaths near Bury, and in Sussex, which has small reddish shields. He thought it a distinct species; but considering how much this gelatinous family often varies when it bears fruit, and still how little essential difference there is between the two specimens, we venture to publish them, at least for consideration, as the same.

As to the genus now first introduced to our readers, we have hinted at it in *p.* 2264, and are persuaded that none of this natural order can be more natural or distinct.

1.

2.

2.

1.

Mar. 1, 1901 published by Jos. Lowe & Sons.

LICHEN spongiosus.

Spongy Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, dull green. Leaves clustered, much branched, granulated, cylindrical, obtuse. Shields scattered, concave, brown; externally spongy and pale, with a thin upright margin.

WE are obliged to the Rev. Mr. Harriman for this Lichen also, sent from the county of Durham in 1802. That gentleman informs us he had long passed it over as a *Peziza*, a genus he did not particularly study; but at length he found the leafy crust so be so intimately united with the cups, as to put the matter out of all dispute. After much considera-

[redacted]

Oct. 1. 1804. Published by Jos. Sowerby, London.

121.

LICHEN ſubtilis.

Fine-ſpun Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Gelatinous, dull green, very minute. Leaves ſomewhat imbricated, much branched, linear, bluntiſh. Shields central, cluſtered, with a flat browniſh diſk, and narrow even border.

SYN. Lichen ſubtilis. *Schrad. Spicil.* 95. *Bernhardi in Schrad. Journ. v.* 1. 5. *t.* 2. *f.* 6. *Achar. Prod.* 136. *Dickſ. Crypt. faſc.* 4. 25.

MR. EDWARD FORSTER diſcovered this Lichen near Hale End, Walthamſtow, in 1791. It has ſince been found in Scotland and Ireland by Mr. Brown.

This is one of the moſt minute plants hitherto detected, and, as its firſt deſcriber the accurate Dr. Schrader obſerves, would ſcarcely be viſible to the naked eye, did it not grow in patches, which are from half an inch to an inch and half

April 1, 1802 Published by Thos Cowarly, London

LICHEN muscicola.

Gelatinous Moss Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Gelatinous, tufted, olive black. Segments cylindrical, branched, upright, level-topped, bluntish, wavy and uneven. Shields nearly terminal, horizontal, flattish, brown, with an entire border.

Syn. Lichen muscicola. *Ach. Prod.* 215. *Act. Holm. for* 1795. 12. *t.* 1. *f.* 3. *Swartz. Nov. Act. Ups. v.* 4. 248. *Dicks. Crypt. fasc.* 2. 23. *t.* 6. *f.* 9. *Bernhardi in Schrad. Journ. for* 1799. 22. *t.* 2. *f.* 3. *With. v.* 4. 46. *Hull.* 306.
Parmelia muscicola. *Ach. Meth.* 244. *Winch. v.* 2. 59.

ALL our specimens of this curious Lichen have been communicated by the Rev. Mr. Harriman from the county of Durham, where it grows, running over mosses, on rocks and stones; as well as in Scotland and Wales.

Its habit is in appearance that of the tribe called *Cornicularia*, but it is now more justly reckoned by Acharius among the gelatinous Lichens, or *Collemata*, which, though sunk in his

2264

Mar 1 as published by Jas Sowerby London

123.

LICHEN nigrescens.

Blackish, or Bat's-wing Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, gelatinous, membranous, rugged and blistered, of a dark dull green, the lobes rounded. Shields clustered, reddish brown.

SYN. Lichen nigrescens, *Huds. Fl. An.* 537. *With. Bot. Arr, v.* 3. 198. *Relh. Cant.* 430. *Sibth. Ox.* 328. *Dicks. H. Sicc. fasc.* 11. 22.
L. vespertilio. *Lightf. Fl Sc.* 840.
Lichenoides saxatile membranaceum gelatinosum tenue nigrescens. *Raii Syn.* 72.
L. gelatinosum membranaceum, tenue, nigricans. *Dill. Musc.* 138. *t.* 19. *f.* 20.

NOT unfrequent on the trunks of trees in damp woods, or on moist rocks, &c. It grows in patches lying close to the bark, especially the outermost lobes of the frond, which are rounded and entire, appearing very much wrinkled from numerous oblong parallel pustule-like elevations in the substance of

LICHEN flaccidus.

Flaccid Granulous Lichen.

[illegible] *Aspe.*

Gen. Char. Male [illegible] warts.

Female [illegible] shields or tubercles, in which the seeds are imbedded.

Spec. Char. Lobes prostrate, membranous, granulated, of a dark hazel green; its lobes ascending, crumpled, [illegible] entire. Shields scattered, reddish.

Syn. Lichen flaccidus. *Ach. Prod.* 131.

L. [illegible]. *Lam. ill. Meth. Mus.* 57. *Swartz. Act. Ch. 7. t. 248.*

L. [illegible]. *Lam. Herbiar.* 257.

L. [illegible]. *Gunn. Norweg. v. 2.* 131. *Fl. Dan. t. 472. f. 3.*

L. [illegible]. *Ehrh. Crypt.* 98.

Parmelia flaccida. *Ach. Meth.* 299.

GATHERED on moist dripping rocks in Westmoreland in 1783. Mr. Dickson about the same time received it from Derbyshire and Scotland. To him I am obliged for observing that the number Linnæus quotes for this species a wrong synonym of Dillenius, and yet has taken its description from that author. The Dillenian plant may remain as *L. rupestris* of Wiggers, though not of Linnæus, while for the latter we gladly adopt the infinitely preferable name of *flaccidus* given

Published, Published by Jas Sowerby, London.

125.

LICHEN saturninus.

Saturnine Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are included.

SPEC. CHAR. Leafy, gelatinous, membranous, dark greenish lead-coloured; glaucous and downy beneath; its lobes ascending, rounded, wavy. Shields scattered, reddish-brown, with a thin border.

SYN. Lichen saturninus. *Sm. Tr. of L. Soc. v.* 1. 84. *Dicks. Crypt. fasc.* 2. 21. *t.* 6. *f.* 8. *Ach. Prod.* 132. *With. v.* 4. 60. *Hull.* 298.

L. myochrous. *Ehrh. Crypt.* 286.

Parmelia saturnina. *Ach. Meth.* 221. *Winch Guide v.* 2. 58.

MR. DICKSON discovered this on trunks of trees in Scotland, about the same time that I gathered it in France and Savoy. Mr. Turner favoured us with our present specimen

1980

Pub. 1 May Published by Jas. Sowerby London

126

LICHEN tremelloides.

Nostoc Gelatinosus Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. *Male.* scattered warts.
Female. smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Leaves gelatinous, membranous, thin, smooth all over, green; light lead-coloured when dry: lobes ascending, rounded, folded, somewhat matted. Shields scattered, rather elevated, flat, naked, with a smooth pale border.

Syn. Lichen tremelloides. *Linn. Suppl.* 450. *Ach. Prod.* 36.
L. nostochinus. *Bolus. Crypt. fasc.* 1. 13. *t.* 2. *f.* 9. *With.* 1. 4. 74. *Hud.* 500.
Parmelia tremelloides. *Ach. Meth.* 224.

THIS Lichen I first gathered in 1791 on the east side of Dunbarton castle rock, in a moist spot near the bottom, but without shields. In Dumfries-shire, whence Mr. Slater sent specimens to Mr. Dickson, it is more generally found in fructification. Its frondes grow in creeping patches, and are very

Feb. 1 1799 Published by Jas. Sowerby London

127

LICHEN lacer.

Jagged Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, gelatinous, membranous, extremely thin, nearly upright, blueish brown; lobes dilated, finely jagged and fringed. Shields scattered, minute, concave, red, with a thick brown border.

SYN. Lichen lacerus. *Ach. Prod.* 133.
L. tremelloides. *Huds.* 537., *Lightf.* 842. *Hull.* 300. *Raii.* 464. *Sibth.* 328.
L. Tremella. *With.* 72.
Lichenoides pellucidum, endiviæ foliis tenuibus crispis. *Dill. Musc.* 143. *t.* 19. *f.* 51.
L. sinuosus tenue rufescens. *Dill. in Raii Syn.* 77.
Parmelia lacera. *Ach. Meth.* 225. *Winch Guide v.* 2. 55.
Tremella lichenoides. *Linn. Sp. Pl.* 1625.

WE resign with regret Hudson's name for this pretty Lichen, out of deference to Linnæus and Acharius, see last page; but we presume to change the word *lacerus* for the more classical

Feb 1 1809 Published by Jas Sowerby London

LICHEN Burgessii.

Crowned Lichen.

CRYPTOGAMIA Algæ.

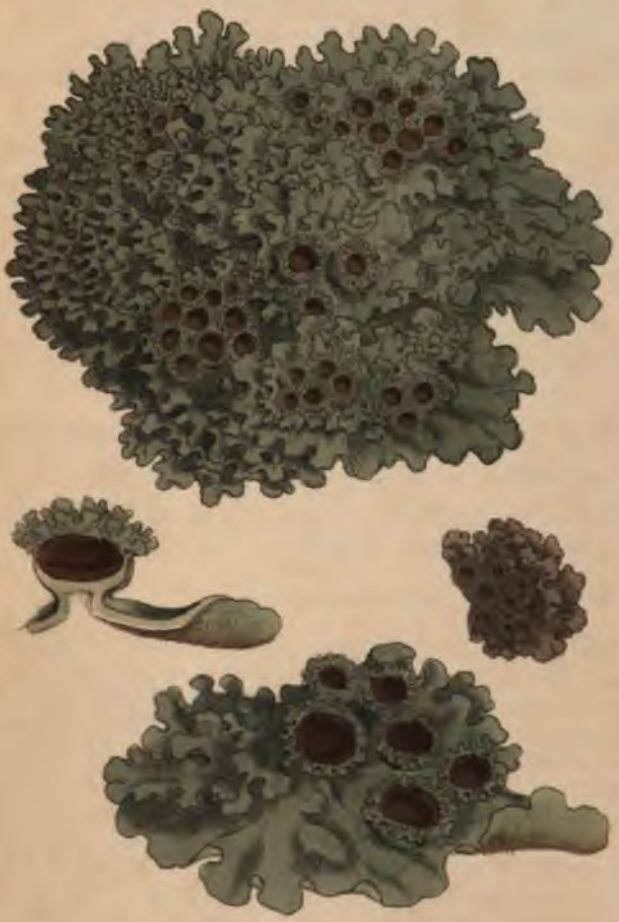
GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, somewhat imbricated, curled. Shields elevated, brown, slightly concave, with a green, leafy, curled and sinuated border.

SYN. Lichen Burgessii. *Linn. Syst. Veg. ed.* 13. 807. *Lightf. Scot.* 827. *t.* 26. *Huds. Fl. An.* 538. *With. Bot. Arr. v.* 3. 189.

HITHERTO this curious *Lichen* has been found only in Dumfriesshire, Scotland, by the Rev. Dr. Burgess; but our specimens were gathered last summer on trunks of trees in the wild and beautiful country about the Devil's bridge, Cardigan-



Jno. R. Coggs Del. & Lith. & W. P. Sowerby London

LICHEN globiferus.

Gace Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, [illegible] warts.

Female, [illegible] shields or tubercles in which the seeds are imbedded.

Spec. Char. Scrubby, fibrous, much branched, cylindrical, brownish and polished. Shields terminal, globular, producing a ball of black coagulinated powder.

Syn. Lichen globiferus. *Linn. Mant.* 133.

L. globiferus. *Hudson. Fl. Ang.* ed. 1. 460.

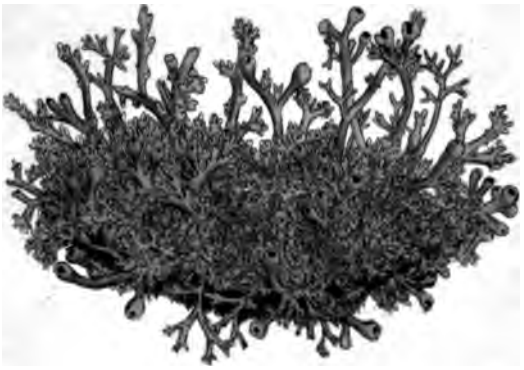
L. fragilis β. *Hudson. Fl. Ang.* ed. 2. 558. *With. Bot. Arr.* 215.

Lichenoides non tubulosum, ramulis scutellis nigris terminatis. *Raii Syn.* 66? See L. fragilis (114).

Coralloides cupressiforme, capitulis globosis. *Dill. Musc.* 117. *t.* 17. *f.* 35.

A NATIVE of mountainous rocky heaths, very abundant in Scotland, Wales, and on Cromford moor near Matlock.

This species forms tufts by far less dense than those of L



130.

SPHÆROPHORON fragile.

Brittle Globe Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* nearly globose, terminal, of the substance of the frond. *Seeds* in a dense, black, powdery bail.

SPEC. CHAR. Frond densely tufted, brownish, brittle, cylindrical, repeatedly forked, without lateral branches.

SYN. Sphærophoron fragile. *Ach. Meth.* 135.
S. coralloides β. *Turn. & Borr. Lich. Brit. v.* 1. 111.
Lichen fragilis. *Linn. Sp. Pl.* 1621. *Fl. Suec. ed.* 2. 425. *Ehrh. Crypt.* 128.
L. sterilis. *Ach. Prod.* 211.
Coralloides fragile. *Hoffm. Pl. Lich. v.* 2. 34. *t.* 33. *f.* 3.

COMMUNICATED by Mr. Turner from rocks in Scotland. Being now satisfied of the necessity of separating this genus from *Lichen*, we take this opportunity of giving its characters. Three species only have been found in any part of the world. The habit of them all is no less peculiar than their fructification; shrubby, tufted, polished, more like a coral than a plant, the upper branches elongated, and tipped with large, solitary, nearly

2474

Nunquam publicatum by J. Sowerby London

LICHEN fragilis.

Brittle Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded. *Hedwig in With. Vol.* 3. *p.* 29, *&c.*

SPEC. CHAR. Shrubby, ſolid, branched, compreſſed, whitiſh. Shields terminal, depreſſed, producing black powder intermixed with fibres.

SYN. Lichen fragilis. *Linn. Sp. Pl.* 1621. *Hudſ. Fl. An.* 558. *With. Bot. Arr. V.* 3. 215. *Jacq. Miſc. V.* 2. 92. *t.* 9. *f.* 6. c. bad.

L. melanocarpus. *Swartz. Prod.* 147.

Lichenoides non tubuloſum ramoſiſſimum, fruticuli ſpecie, cinereo-fuſcum. *Raii Syn.* 65 ?

Coralloides alpinum, Corallinæ minoris facie. *Dill. Muſc.* 116. *t.* 17. *f.* 34.

FOUND on rocks and heaths in mountainous places, ſcarcely ever producing its ſhields except in moiſt ſhady ſituations. It was found in that ſtate at Tunbridge by Mr. T. F. Forſter, junr. in 1791, and by Dr. Smith, the following year, on the north ſide of the high rocks on Cromford moor near Matlock. We believe few perſons ſince Dillenius have ſeen theſe ſhields.

The moſt common appearance of the plant is a thick tuft of ſhort, erect, bluntiſh branches (fig. 1.) ſpreading on the rocks like a cruſtaceous Lichen. The flowering ſtems are widely dif-